P AND $\bar{P}$

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COMPILATION OF CROSS SECTIONS

III - P AND $\bar{P}$ INDUCED REACTIONS

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COMPILATION OF CROSS SECTIONS
I - p AND $\bar{p}$ INDUCED REACTIONS

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ABSTRACT

A compilation of cross sections of reactions produced by protons and antiprotons on targets of protons, neutrons and deuterons, is presented. This is an updated version of CERN/HERA 70-2 and 70-3 and contains 40% more data values than the earlier publications. It also contains some data from I.S.R., N.A.L. and Serpukhov up to Feb. 1973. Graphs of the variation of cross section with incident laboratory momentum are plotted. Values of the rate of decrease of cross section with incident momentum are given.

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CONTENTS

1. INTRODUCTION

In high energy strong interactions a considerable amount of data has been and is being produced. To make this information readily available, compilations are required. The present work is a compilation of cross sections, which is an important and useful quantity. The complete series of publications will contain cross sections for reactions with incident protons, antiprotons, pions and kaons on targets of protons, neutrons, deuterons and helium nuclei. The present publication is an updated edition of our previous compilations [1]. Here for reasons of economy, we have now changed and compressed the presentation. The whole series of publications consists now of three volumes: one on $\pi^{\pm}$, one on $K^{\pm}$ and the last on p and $\bar{p}$ induced reactions. All strong interactions have been considered in the sense that values are given for total cross sections, elastic, quasi two-body, many-body and phenomenological (i.e. prong number) cross sections.

The cross sections, σ, are tabulated against the laboratory momentum, p_{Lab}, but the corresponding values of the square of c.m. energy and of the kinetic energy of the incoming particle are also given. For any reaction with a cross section determined at a reasonable number ($\tilde{\sim}$ 6) of momenta, a plot is given of the log σ against log p_{Lab}.

No theoretical interpretation of the data is given, but as the rate of fall-off of a cross section with p_{Lab} at high energy is of interest, an empirical fit to the data has been made with the parameterization.

$$\sigma = \text{constant} \times (p_{Lab})^{n} \qquad (1)$$

It has previously been shown [2] that this expression fits two-body reactions and the exponent n is related to the exchange mechanism which dominates the reaction. An extension for many-body reactions has been made [3].

This compilation started from a presentation of data on two-body reactions at the Stony Brook Conference (1966) [2]. It was enlarged and became part of the European project of data compilation, High Energy Reaction Analysis, HERA.

We have tried to compile all data published before August 1971; some particularly interesting recent data are also included up to February 1973.

Although we have tried to check all numbers, there are probably errors and omissions - please, tell us. Suggestions on how to improve these compilations are very welcome.

2. USE OF COMPILATION - SUMMARY

The results of this compilation are in table 6 where the cross sections for the various reactions are listed. Plots of the cross section versus p_{Lab} for the main reactions are given at the end of the compilation. The reactions considered are listed in tables 5 and 7. The order of this listing is explained in Section 5. Each reaction is given a number and the same numbers are used in tables 5 and 6 for the p data, in tables 7 and 8 for the $\bar{p}$ data and on the plots.

The symbols used for the particles and resonances are summarized in table 1. The abbreviations used for the quotations of the publications are listed in table 2. Further conventions used to describe the reactions are given in table 3. The list of footnotes and their corresponding code letter are in table 4.

3. ERRORS - A WARNING

Great care should be taken with all the errors quoted in this compilation. In almost all cases the errors quoted are those given in the publications. As can be seen from the dispersion of points on the plots, these errors on cross sections tend to be underestimated. In general the errors quoted here are only statistical, as values of systematic errors are rarely given except for total and elastic cross sections.

4. ORGANISATION OF THE DATA

For each experimental result, a punched card is prepared containing the values of the incident momentum, cross section, error and the reference. These quantities are then put on magnetic tape from which are produced the listings of the data and the plots, on a log-log scale of the cross section against the incident momentum. The result of the fit of equation (1) to the experimental points is also plotted and the values of the exponent, n, and the probability of the fit are given in table 6.

Each reaction is identified by a TITLE given in the form

Initial State = Final State

e.g. $\pi^+ p = p\pi^+\pi^+\pi^-\pi^o$

which we write PI+P = PPI+PI+PI-PIO

or Initial State = Intermediate State = Final State

e.g. $\pi^+ p = N^{*++}\eta = p\pi^+\pi^+\pi^-\pi^o$

Here the cross section is for production of the $N^{*++}\eta$ reaction in which only the η decay into $(\pi^+\pi^-\pi^o)$ state is considered. If the title had been $\pi^+ p = N^{*++}\eta$, then the cross section value would include all decay modes of the eta-meson.

Each particle or resonance is denoted by a conventional symbol (consisting of a small number of letters and numbers) as similar as possible to its "nickname". A list of the symbols used for the various particles is given in table 1.

To help find the plot of the cross section values, a number is given in the listings for each reaction, and the same number is printed on the corresponding plot.

5. ORDERING OF REACTIONS

A. Ordering of the particles in the initial state

The first particle from the left is always the incident particle in the laboratory system; the second is the target. The reactions are arranged in groups according to the mass of the target, the groups appearing in order of increasing target mass value for the latter e.g. pp, pn, pd and pHe.

B. Ordering the particles in the final state

The particles appearing in the final state are ordered firstly according to their baryonic numbers, then their mass and charge, as follows

BARYONS		MESONS		ANTIBARYONS		Unseen Neutrals
HEAVIEST	LIGHTEST	HEAVIEST	LIGHTEST	HEAVIEST	LIGHTEST	Z^o
+,-,o	+,-,o	+,-,o	+,-,o	+,-,o	+,-,o	

each of these quantities determining in turn the position of the particle inside the group of the final state particles, as shown in this table. The symbol Z^o is described further in Section 8C.

So first come the baryons, then the mesons; in the group of the baryons, the heavy positive baryons are first, then the heavy negative, and then the heavy neutral baryons. After come the "light" positive baryons, then the negative and so on. No fit (Z^o) always comes last e.g., $\pi^- p = p\pi^+\pi^-\pi^- Z^o$, $K^- p = \Lambda p\ \pi^+\pi^- pZ^o$:

An exception is for elastic scattering where we write,

PI+P = PI+P and not PI+P = PPI+

in order to avoid any confusion with backward elastic scattering.

C. Ordering of reactions coming from the same initial state.

For a given initial state, the reactions are ordered according to the nature of the first particle appearing in the final state, in the following way. If the first particle appearing in the final state is a baryon, then those final states for which the strangeness S of the baryon is +1, will appear first, then those with S = 0, S = - 1, etc. For a given strangeness the reactions are ordered according to the mass of the baryon, in order to increasing mass. For fixed S and mass, the order then depends on charge, positive first, then negative and lastly neutral. If the first particle is a meson, i.e. there are no baryons, then the ordering is based on mass and charge only, and strangeness is ignored.

If the first particle appearing in the final state of two different reactions has the same baryon number, mass and charge, then the ordering is governed by the baryon number, strangeness, mass and charge of the particle which appears second in the final state, the ordering being the same as for the first particle. If an intermediate state is also given (e.g. K-P = PK^{*}-890 = PK-PI+), then what matters for the ordering is always the intermediate state. There are cross sections which cannot be classified in the above manner, such as the cross sections for production of two-prongs, four-prongs, annihilation (in case of $\bar{p}p$), etc. They will be quoted in the following order:

1) Total cross sections

2) Elastic cross sections

3) Topological cross sections as seen in bubble chambers, e.g. two-prongs, four-prongs, etc.

4) All other cross sections in the order described above.

However, to help the reader, some reactions are given in order of increasing multiplicity, e.g. $\pi^- p \to p\pi^+\pi^-\pi^-$ should be given before $\pi^- p \to p\pi^-\pi^o$, but here the ordering is $\pi^- p \to p\pi^-\pi^o$, $\pi^- p \to p\pi^+\pi^-\pi^-$, $\pi^- p \to p\pi^+\pi^+\pi^-\pi^-\pi^-$ etc.

6. DESCRIPTION OF REFERENCES

We quote for each reaction the name of the first author appearing on the publication, the review, volume, page and year. A list of abbreviations used for the various reviews, preprints and conference reports is given separately in table 2.

7. UNITS

The units used are GeV/c for the laboratory momentum, (GeV) for the kinetic energy and $(GeV)^2$ for s, the total c.m. energy squared. For the cross sections, σ, the units are normally millibarns, but if the cross section is less than 10 microbarns, then the units are microbarns and in this case the word "microb." is printed on the table. In the fitting of the equation $\sigma = Kp_{Lab}^{n}$ σ is in millibarns and p_{Lab} is in GeV/c.

8. ADDITIONAL NOTES

A certain number of additional comments should be made.

A. Cross sections for final states containing only stable particles.

For these types of reactions, we have sometimes been forced for reasons of space to shorten the description of the final state. For example, the reaction:

$\pi^+ p = p\pi^+\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-$, might be indicated as:

PI+P = P4PI+3PI-.

Also it has to be noted that for this type of reaction, what is usually quoted in the literature as cross section is in effect the sum of the cross sections including all intermediate states which will finally decay into the given final state plus the cross section for the non-resonant reaction (i.e., without intermediate resonance production). Therefore, each time one such cross section is quoted, it is to be understood that it includes all possible resonance production. When the known resonances have been substracted, the comment (non-resonant) will appear.

For "stable" particles appearing in the final state, like Λ^o, Σ^o, K^o, etc., which have neutral decay modes, the quoted cross section is always assumed to include a correction for unseen decays, unless explicitly stated.

Sometimes no charge is specified for the particles in the final states, e.g., if the reaction is written as

PI-P = YKPIPI

then the cross section is the sum of the cross sections for the final states which include any hyperon, and kaon, and any two pions, consistent with conservation of charge and strangeness. The reaction listed as

K+P = P(KPI)+

refers to the sum of the two different final states, $K^+p = pK^+\pi^o$ and $K^+p = pK^o\pi^+$.

For the sum of the reactions $K^-p = \Sigma^+\pi^-\pi^o$ and $K^-p = \Sigma^-\pi^+\pi^o$, we have written

K-P = S(+, -) PI(-, +)PIO

B. Cross sections for final states containing one or more resonances.

The same convention on the correction for unseen decay modes holds for a decaying resonance. In any case, when not explicitly stated, the quoted cross section refers to all the possible decay modes of the resonance. If, on the contrary, the cross section refers to a given decay mode only, this has been specified:

$\pi^-p = N^{*o}\omega^o = p\pi^+\pi^-\pi^-\pi^o$ or, in the program language

PI-P = N*O1236OM = PPI+PI-PI-PIO

the meaning of which is that for the N^{*o} only the decay mode into $p\pi^-$ was considered, and for the ω only the decay into $\pi^+\pi^-\pi^o$.

C. Explanation of the Symbol Z^{o}.

In event analysis using kinematic fitting, if there is one or more constraint, then the event is said to be "fitted". If there is more than one undetected neutral particle, then the event is not fitted. In bubble chamber work, a symbol, here Z^{o}, is given to the sum of the missing neutrals, i.e. Z^{o} is treated as a single particle required to conserve energy and momentum in the reaction. Thus the reaction $K^{-}p = pK^{-}Z^{o}$, means that two charged particles were observed and in addition there were two or more neutrals: the cross section given for this reaction does not include reactions produced with only one neutral such as $K^{-}p = pK^{-}\pi^{o}$.

D. Ambiguous Particle Assignments.

Sometimes the nature of the observed charged particles cannot be established. For example in the reaction quoted in Section C above, if one cannot distinguish whether the event belongs to the reaction

$K^{-}p = pK^{-}Z^{o}$ or $K^{-}p = p\pi^{-}Z^{o}$, then the reaction is written as

$K^{-}p = p(K/\pi)^{-}Z^{o}$.

Similarly $\pi^{-}p = (\Lambda/\Sigma)^{o}K^{o}$ represents the sum of the cross sections for the reactions $\pi^{-}p = \Lambda K^{o}$ and $\pi^{-}p = \Sigma^{o}K^{o}$.

E. Antiparticles.

The charge specified for antiparticles is not the charge of the corresponding particles, but that of the antiparticle itself. This means that the antiparticle of the Ξ^{-} will be denoted by AXI+, i.e., the charge printed is the observed positive charge of the anti-particle.

F. Topological Cross Sections.

For reactions of the type:

pp = 6 prongs + V^o, where by V^o we mean a decaying strange particle, we adopted the following conventions:

a) the number of prongs is written first, and then the V and its charge

b) a comma is used to separate the number of prongs from the V.

examples:

K^-p = 4 prongs + V^o becomes K-P = 4 PRONGS, VO

π^-p = 6 prongs + (Σ^o, Λ^o) becomes PI-P = 6 PRONGS, (SO/L)

G. Charge Conjugate Final States.

For the sum of two charge conjugate final states the symbal CC has been used e.g.,

APP = NPI+AP CC

means the sum of $pp = n\pi^+p$ and $pp = p\pi^-\bar{n}$.

H. Shortening of Title.

In some cases it has been necessary to shorten the title, or the reference, because of limitations of space. If necessary, additional information is given in a footnote.

I. Footnotes.

Further comments or information have sometimes been added as footnotes. The presence of a footnote is signalled by a letter in the last column of the listing. The footnotes are listed in table 4.

J. Widths of Resonances.

The cross section value quoted in a publication for a reaction involving one or more resonances, depends to some extent on the width of the resonance used to fit the experimental mass distribution. Since the resonance widths used sometimes vary appreciably from publication to publication, this may be a factor affecting the dispersion of cross section values. As, in general, we take the value given by the authors, it is recommended in case of doubt that the reader check the original publication.

REFERENCES.

[1] E. Flaminio, J.D. Hansen, D.R.O. Morrison, N. Tovey; Compilation of cross sections:

I-Proton induced reactions, CERN-HERA 70-2

II- Antiproton induced reactions, CERN-HERA 70-3

III-K^+ induced reactions, CERN-HERA 70-4

IV-π^+ induced reactions, CERN-HERA 70-5

V-K^- induced reactions, CERN-HERA 70-6

VI-π^- induced reactions, CERN-HERA 70-7

[2] D.R.O. Morrison, Stony Brook Conference on Two-body Reactions (1966).

[3] J.D. Hansen, W. Kittel and D.R.O. Morrison, Nuclear Physics B25 (1971) 605.

TABLE 1

Symbols used for particles and resonances

MESONS

π	PI	f^{o} (1260)	F
K	K	D (1285)	D
K_1^o	KS	A_2 (1300)	A_2
K_2^o	KL	Q or K^* (1320)	K^*1320
η (549)	ET	K^* (1400)	K^*1400
K (725)	K725	E (1420)	E
ρ (765)	RH	f^* (1500)	F^*
ω (783)	OM	A_3 (1640)	A3
K^*(890)	K^*890	$\emptyset_N$ (1650)	PHI1650
X^o or η'	XO	G (1660)	G
δ (965)	DEL	ρ (1700)	R
H (990)	H	L or K^*(1790)	K^*1790
ϕ (1019)	PHI	S (1930)	S
S^* (1070)	S^*	U^o (2420)	U0
A_1 (1070)	A1	THRESHOLD ENHANC.	TE
$A_{1.5}$ (1190)	A1.5	MISSING NEUTRALS	ZO
B (1220)	B	γ	GAM

TABLE 1 (cont'd)

BARYONS

Proton	P	Δ (2420)	N* 2420
Neutron	N	Δ (2850)	N* 2850
Λ	L	Λ (1405)	Y1405
Σ	S	Λ (1520)	Y1520
Ξ	XI	Λ (1670)	Y1670
Ω^-	OM-	Λ (1700)	Y1700
Hyperon	Y	Λ (1820)	Y1820
De	DE	Λ (2100)	Y2100
De*	DE*	Λ (2340)	Y2340
N (1400)	N1400	Λ (2340)	Y2340
N (1525)	N1525	Σ (1385)	Y* 1385
N (1570)	N1570	Σ (1660)	Y* 1660
N (1688)	N1688	Σ (1690)	Y* 1690
N (1700)	N1700	Σ (1770)	Y* 1770
N (2190)	N2190	Σ (1910)	Y* 1910
N (2650)	N2650	Σ (2035)	Y* 2035
N (3030)	N3030	Σ (2260)	Y* 2260
N (3230)	N3230	Z (1900)	Z1900
Δ (1236)	N* 1236	Ξ (1530)	XI* 1530
Δ (1670)	N* 1670	Ξ (1700)	XI* 1700
Δ (1920)	N* 1920	Ξ (1815)	XI* 1815
Δ (2360)	N* 2360	Ξ (1930)	XI* 1930
		Ξ (2030)	XI* 2030

Antiparticles are denoted by the same symbols used for the corresponding particles, with the prefix A.

For a given excited state of an isobar or hyperon, the charge is given before the mass.

TABLE 2

List of symbols and abbreviations used in the references to denote reviews, journals, conference reports, preprints, etc.

JOURNALS, REVIEWS, ETC.

AF	ARKIV FOR FYSIK
AJP	AUSTRALIAN JOURNAL OF PHYSICS
ANPHY	ANNALS OF PHYSICS
BAPS	BULLETIN OF THE AMERICAN PHYSICAL SOCIETY
CRAS	COMPTES RENDUS, ACADEMIE DES SCIENCES
DOKY	SOVIET PHYSICS - DOKLADY (TRANSLATION)
HELPA	HELVETICA PHYSICA ACTA
JETP	SOVIET PHYSICS - JOURNAL OF EXP. AND THEOR. PHYSICS
JETPL	SOVIET PHYSICS - JETP LETTERS
JNP	SOVIET JOURNAL OF NUCLEAR PHYSICS (TRANSLATION)
JPSJ	JOURNAL OF THE PHYSICAL SOCIETY OF JAPAN
NC	NUOVO CIMENTO
NCS	SUPPLEMENTO AL NUOVO CIMENTO
NP	NUCLEAR PHYSICS
PHM	PHILOSOPHICAL MAGAZINE
PHY	PHYSICA
PL	PHYSICS LETTERS
PR	PHYSICAL REVIEW
PRL	PHYSICAL REVIEW LETTERS
PRS	PROCEEDINGS OF THE ROYAL SOCIETY
PPS	PROCEEDINGS OF THE PHYSICAL SOCIETY
RMP	REVIEWS OF MODERN PHYSICS
USPEK	SOVIET PHYSICS - USPEKHI (TRANSLATION)

TABLE 2 (cont'd)

PREPRINTS

ANL	ARGONNE ILL. USA	ARGONNE NAT. LAB.
BNL	UPTION, L.I., N.Y. USA	BROOKHAVEN NAT. LAB.
CEA	SACLAY, FRANCE	COMM. ENERGIE ATOMIQUE
CERN	GENEVA. SWITZERLAND	EUROP. ORGANIZATION NUCL. RESEARCH
CERNS	GENEVA, SWITZERLAND	CERN SYMPOSIUM
COO	LAFAYETTE, IND. USA	PURDUE UNIVERSITY
DUBNA	DUBNA, URSS	JOINT INST. FOR NUCL. RESEARCH
EFINS	CHICAGO, ILL .USA	E. FERMI, INSTITUTE, UN. CHICAGO
ICTP	LONDON, ENGLAND	IMPERIAL COLLEGE
IHEP	SERPUKHOV, URSS	INST. FOR HIGH ENERGY PHYSICS
INR	WARSAW, POLAND	INSTITUTE OF NUCLEAR RESEARCH
ITPST	STANFORD, CAL. USA	INST. THEOR. PHYS., STANFORD UN.
LHEB	BRUXELLES, BELGIUM	LAB. DES HAUTES ENERGIES
MIT	CAMBRIDGE, MASS., USA	MASS. INST. OF TECHNOLOGY
NEV	NEW YORK, N.Y., USA	NEVIS CYCL. LAB., COLUMBIA UN.
NTDM	NOTRE DAME, IND.,USA	UN. OF NOTRE DAME
NWTUN	EVANSTONE, ILL. USA	NORTHWESTERN UN.
PAM	PARIS, FRANCE	COLLEGE DE FRANCE
PLANCK	MUNCHEN, GERMANY	MAX-PLANCK INST.
RPP	CHILTON, DIDCOT, BERKS. ENGLAND	RUTHERFORD HIGH ENERGY LAB.
RUTGERS	NEW BRUNSWICK,N.J., USA	STATE UNIVERSITY, RUTGERS
SLAC	STANFORD, CAL., USA	STANFORD LIN. ACC. CENTER
TATA	BOMBAY, INDIA	TATA INST. FUNDAMENTAL RES.
UCLA	LOS ANGELES, CAL., USA	UNIV. OF CALIFORNIA
UCRL	BERKELEY, CAL., USA	UNIV. OF CALIFORNIA, LRL
UCOL	BOULDER, COL., USA	UNIVERSITY OF COLORADO
UR	ROCHESTER, N.Y., USA	UNIVERSITY OF ROCHESTER
VANBLT	NASHVILLE, TENN., USA	VANDERBILT UNIVERSITY
WIS	MADISON, WIS., USA	UNIV. OF WISCONSIN

CONFERENCE PROCEEDINGS

TABLE 2 (Cont'd)

ROCH60	1960 INTERNATIONAL CONFERENCE ON HIGH ENERGY PHYSICS AT ROCHESTER
AIX61	AIX-EN-PROVENCE INTERNATIONAL CONFERENCE ON ELEMENTARY PARTICLES 1963
CERN62	1962 INTERNATIONAL CONFERENCE ON HIGH ENERGY PHYSICS AT CERN
ATHENS63	ATHENS TOPICAL CONFERENCE ON RESONANT PARTICLES 1963
SIE63	SIENNA INTERNATIONAL CONFERENCE ON ELEMENTARY PARTICLES 1963
DUB64	1964 INTERNATIONAL CONFERENCE ON HIGH ENERGY PHYSICS AT DUBNA
ATHENS65	SECOND ATHENS TOPICAL CONFERENCE ON RESONANT PARTICLES 1965
OF65	OXFORD INTERNATIONAL CONFERENCE ON ELEMENTARY PARTICLES 1965
BER66	1966 INTERNATIONAL CONFERENCE ON HIGH ENERGY PHYSICS AT BERKELEY
HEID67	HEIDELBERG INTERNATIONAL CONFERENCE ON ELEMENTARY PARTICLES 1967
CERN68	TOPICAL CONFERENCE ON HIGH ENERGY COLLISIONS OF HADRONS CERN 1968
VIENNA68	INTERNATIONAL CONFERENCE ON HIGH ENERGY PHYSICS VIENNA 1968
LUND69	LUD INTERNATIONAL CONFERENCE ON ELEMENTARY PARTICLES 1969
STONYBRK.	CONFERENCE ON HIGH ENERGY TWO-BODY REACTIONS, STONY BROOK, LONG ISLAND
KIEV70	INTERNATIONAL CONFERENCE ON HIGH ENERGY PHYSICS, KIEV, 1970

OTHERS

ABS	ABSTRACT
PC	PRIVATE COMMUNICATION
TBP	TO BE PUBLISHED
BGO COLL.	BIRMINGHAM-GLASGOW-OXFORD COLL., 10 GeV/c K^+
SCAND.COLL or SCANDINAVIA	COPENHAGEN-HELSINKI-OSLO-STOCKHOLM COLL.
ABBCCW	AACHEN-BERLIN-BONN-CERN-CRACOW-WARSAW COLLABORATION
ABCLV	AACHEN-BERLIN-CERN-LONDON-VIENNA COLLABORATION

TABLE 3

Conventions used in the description of reactions

$\bar{\Xi}^-$	is written as AXI+
MPI	for one or more pions
CC	reaction given plus charge conjugate
V	visible decay of a strange particle
NPRONGS	N charged particles in the final state
(L/SO)	Λ or Σ^o
(KPI)+	$K^o\pi^+$ and $K^+\pi^o$
PI(+,-)	π^+ or π^-

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TABLE 4
LIST OF FOOTNOTES

A = SUM OF ALL FINAL STATES WHICH INCLUDE THE GIVEN PARTICLES
B = AVERAGE VALUE TAKEN OVER THE MOMENTUM RANGE 1.2-1.4 GEV/C
C = CROSS SECTION CORRECTED FOR UNSEEN KO DECAYS
D = NOT CORR. FOR HIGH MOMENTUM TRANSFER(GT.50 PI MSQ) TO THE N,NOR FOR KAK DECAY
E = ERROR IS ABOUT TEN PER CENT
F = CROSS SECTION OBTAINED FROM PI+DE=PP, USING DETAILED BALANCING
G = CROSS SECTIONS OBTAINED FROM NORMALIZATION OF TOTAL NUMBER OF EVENTS
H = CROSS SECTIONS OBTAINED FROM COUNT OF TAU DECAYS
I = O TRUE AND P TRUE
J = ONLY THE DECAY MODE INTO PROTON AND K- OF THE Y* IS CONSIDERED
K = 1 TRUE AND A TRUE
L = LOWER LIMIT
N = NEUTRON IS A SPECTATOR
O = ORDER OF MAGNITUDE
P = PROTON IS A SPECTATOR
Q = L TRUE AND * TRUE
R = CROSS SECTION FOR FINAL STATES OBSERVED IN THE BUBBLE CHAMBER
S = STATISTICAL ERROR ONLY
T = S TRUE AND A TRUE
U = UPPER LIMIT
V = 1 TRUE AND U TRUE
W = A TRUE AND U TRUE
Z = NO EVENTS OBSERVED
1 = AVERAGE VALUE OVER A BAND OF MOMENTA
2 = CROSS SECTION NOT CORRECTED FOR SCREENING IN THE DEUTERON
3 = CROSS SECTION CORRECTED FOR SCREENING IN THE DEUTERON
4 = CROSS SECTION DEDUCED FROM THE CHARGED DECAY MODE OF THE ETA
5 = CROSS SECTION DEDUCED FROM THE NEUTRAL DECAY MODE OF THE ETA
6 = FINAL STATE IS A 0 PRONG + ANNIHILATION INTO 2,4 AND 6 PRONGS
7 = CROSS SECTION DERIVED FROM KO1KO1 EVENTS OBSERVED
8 = FROM A SINGLE KO1 OBSERVED, OTHER KO FROM KINEMATIC FITTING
9 = FINAL STATE IS PK+PI+PI-PIO
* = CROSS SECTION DEDUCED BY EDITORS FROM PUBLISHED RESULTS
$ = DATA POINT NOT USED IN FITTING OR PLOTTING
A1 = CROSS SECT.OBTAINED COMBINING RESULTS FROM 2 EXPTS,IN DE AND IN HYDROGEN
AO = A TRUE AND O TRUE
AU = A TRUE AND U TRUE
BL = NOT CORRECTED FOR OTHER DECAY MODES OF RESONANCE
WR = WARNING *** RESONANT STATE NOT WELL ESTABLISHED
1H = COULOMB CONTRIB. SUBTRACTED **** ALSO CROSS SECT. OBTAINED FROM TAU COUNT
S3 = SYSTEMATIC ERROR IS 0.3 PER CENT
S4 = SYSTEMATIC ERROR IS 0.4 PER CENT
S5 = SYSTEMATIC ERROR IS 0.5 PER CENT
S6 = SYSTEMATIC ERROR IS 0.6 PER CENT
S7 = SYSTEMATIC ERROR IS 1.4 PER CENT

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TABLE 5
LIST OF REACTIONS

REACTION NUMBER		REACTION
1	----------	PP=TOTAL
2	----------	PP=PP
3	----------	PP=2 PRONGS
4	----------	PP=2 PRONGS,INELASTIC
5	----------	PP=2 PRONGS,KO
6	----------	PP=2 PRONGS,SO/L
7	----------	PP=2 PRONGS,ZC
8	----------	PP=4 PRONGS
9	----------	PP=4 PRONGS,ZO
10	----------	PP=6 PRONGS
11	----------	PP=6 PRONGS,ZC
12	----------	PP=8 PRONGS
13	----------	PP=8 PRONGS,ZO
14	----------	PP=10 PRONGS
15	----------	PP=12 PRONGS
16	----------	PP=14 PRONGS
17	----------	PP=16 PRONGS
18	----------	PP=18 PRONGS
19	----------	PP=20 PRONGS
20	----------	PP=22 PRONGS
21	----------	PP=24 PRONGS
22	----------	PP=26 PRONGS
23	----------	PP=INELASTIC
24	----------	PP=STRANGE PARTICLES
25	----------	PP=NEUTRAL STRANGE PARTICLES
26	----------	PP=DEPI+
27	----------	PP=DEPI+/DEPI+PIO
28	----------	PP=DEPI+PIO
29	----------	PP=DEPI+PI+PI-
30	----------	PP=DEPI+PI+PI-/DEPI+PI+PI-PIO
31	----------	PP=DEPI+PI+PI-PIO
32	----------	PP=DERH+
33	----------	PP=P(P/PI+)2PI+2PI-ZO
34	----------	PP=PPPIO
35	----------	PP=PPPIOPIO
36	----------	PP=PPZO
37	----------	PP=P(PPIO/NPI+)
38	----------	PP=PPPI+PI-
39	----------	PP=PPPI+PI- (NON RESONANT)
40	----------	PP=PPPI+PI-PIO
41	----------	PP=PPPI+PI-PIO(NON RESONANT)
42	----------	PP=PPPI+PI-PIOPIO
43	----------	PP=PPPI+PI-ZC
44	----------	PP=PPPI+PI+PI-PI-
45	----------	PP=PPPI+PI+PI-PI-PIO
46	----------	PP=PPPI+PI+PI-PI-ZC
47	----------	PP=PP3PI+3PI-
48	----------	PP=PP3PI+3PI-PIO
49	----------	PP=PP4PI+4PI-
50	----------	PP=PP5PI+5PI-
51	----------	PP=PPK+KOPI-
52	----------	PP=PPK-KOPI+
53	----------	PP=PPK-KOPI+PIO
54	----------	PP=PPKOKO
55	----------	PP=PPKOKOPIC
56	----------	PP=PPKOKOPI+PI-
57	----------	PP=PPKOKOPI+PI-PIO
58	----------	PP=PPKSKS
59	----------	PP=PPKSKL
60	----------	PP=PPET
61	----------	PP=PPET=PPPI+PI-GM
62	----------	PP=PPET=PPPI+PI-PIC
63	----------	PP=PPET=PPZC
64	----------	PP=PPRH+PI-
65	----------	PP=PPRH-PI+
66	----------	PP=PPRHO
67	----------	PP=PPRHOPIO
68	----------	PP=PPOM
69	----------	PP=PPOM=PPPI+PI-PIO
70	----------	PP=PPOMPI+PI-
71	----------	PP=PPXO
72	----------	PP=PPF
73	----------	PP=PPF=PPPI+PI-
74	----------	PP=PNPI+
75	----------	PP=PNPI+PIO
76	----------	PP=PNPI+PIOPIC
77	----------	PP=PNPI+PI+PI-
78	----------	PP=PNPI+PI+PI- (NON RESONANT)
79	----------	PP=PN3PI+2PI-
80	----------	PP=PN4PI+3PI-
81	----------	PP=PNK+KO
82	----------	PP=PNK+KOPI+PI-
83	----------	PP=PNK-KOPI+PI+
84	----------	PP=PNKOKOPI+
85	----------	PP=PNKOKOPI+PI+PI-
86	----------	PP=PPI+ZO
87	----------	PP=PPI+PI+PI-ZO
88	----------	PP=P3PI+2PI-ZC
89	----------	PP=N***1236PPI+2PI-
90	----------	PP=N***1236PPI+2PI-PIO
91	----------	PP=N***1236PPI-
92	----------	PP=N***1236PPI-PIC
93	----------	PP=N***1236PRH-
94	----------	PP=N***1236POMPI-
95	----------	PP=N***1236N
96	----------	PP=N***1236NPI+PI-
97	----------	PP=N***1236N2PI+2PI-
98	----------	PP=N***1236NRHO
99	----------	PP=N***1236N**1236PI-=PP3PI
100	----------	PP=N***1236N*-1236PI+
101	----------	PP=N***1236N*-1236PI+=PN3PI
102	----------	PP=N***1236N*-12362PI+PI-
103	----------	PP=N***1236N*01236=PPPI+PI-
104	----------	PP=N***1236N*01236PIO=PP3PI
105	----------	PP=N***1236NC15CO=PPPI+PI-
106	----------	PP=N***1236N01680=PPPI+PI-
107	----------	PP=N***1236LKO
108	----------	PP=N***1236ZO
109	----------	PP=N**1236P
110	----------	PP=N**1236P=PPPIO
111	----------	PP=N**1236P=PNPI+
112	----------	PP=N**1236PPI+PI-=PPPI+PI-PIO
113	----------	PP=N**1236PPI+PI-=PNPI+PI+PI-
114	----------	PP=N**1236PRHO
115	----------	PP=N**1236NRH+
116	----------	PP=N**1236LK+
117	----------	PP=N**1236LK+=LPK+PIO
118	----------	PP=N**1236LK+=LNK+PI+
119	----------	PP=N*-1236PPI+PI+
120	----------	PP=N*-1236PPI+PI+=PNPI+PI+PI-
121	----------	PP=N*-1236P3PI+PI-
122	----------	PP=N*01236PPI+=PPPI+PI-
123	----------	PP=N*01236PPI+PIO=PPPI+PI-PIO
124	----------	PP=N*01236PRH+
125	----------	PP=N*01236NPI+PI+=PNPI+PI+PI-
126	----------	PP=N*1236NRH
127	----------	PP=N+14COP
128	----------	PP=N+14COP=PPPI+PI-
129	----------	PP=N+14COP=PPPIC
130	----------	PP=N+14COP=PNPI+
131	----------	PP=NO14COPPI+=PPPI+PI-
132	----------	PP=NO14CON***1236=PPPI+PI-
133	----------	PP=N+(147C+1525)P
134	----------	PP=N+1525P
135	----------	PP=N+1525P=PPPIO
136	----------	PP=N+1525P=PPPI+PI-
137	----------	PP=N+1525P=PNPI+
138	----------	PP=N+1525PPIC=PPPI+PI-PIO
139	----------	PP=N+1525NPI+=PNPI+PI+PI-
140	----------	PP=N+1525PPI+PI-=PNPI+PI+PI-
141	----------	PP=N+1525PPI+PI-(N+=N***PI-)
142	----------	PP=N+1525PPI+PI-PIO(N=N***PI-)
143	----------	PP=N+1525N2PI+PI-(N+=N***PI-)
144	----------	PP=N+1525N+1525
145	----------	PP=NO1525PPI+=PPPI+PI-
146	----------	PP=NO1525PPI+=PPPI+PI-PIO
147	----------	PP=NO1525PPI+=PNPI+PI+PI-
148	----------	PP=NO1525PPIPIC=PPPI+PI-PIO
149	----------	PP=NO1525P2PI+PI-(NC=N*-PI+)
150	----------	PP=NO1525N***1236=PPPI+PI-
151	----------	PP=NO1525N***1236=PPPI+PI-PIO
152	----------	PP=NO1525N***1236=PNPI+PI+PI-
153	----------	PP=N+1688P
154	----------	PP=N+1688P=PPPIO
155	----------	PP=N+1688P=PPPI+PI-
156	----------	PP=N+1688P=PNPI+
157	----------	PP=N+1688PPIC=PPPI+PI-PIC
158	----------	PP=N+1688P=N*1236PPI=PPPI+PI-
159	----------	PP=N+1688NPI+=PNPI+PI+PI-
160	----------	PP=N+1688N+1688
161	----------	PP=NO1688PPI+=PPPI+PI-
162	----------	PP=NO1688PPI+=PPPI+PI-PIO
163	----------	PP=NO1688PPI+=PNPI+PI+PI-
164	----------	PP=NO1688N***1236=PPPI+PI-
165	----------	PP=NO1688N***1236=PPPI+PI-PIC
166	----------	PP=NO1688N***1236=PNPI+PI+PI-
167	----------	PP=N***1920N
168	----------	PP=N***1920N=PNPI+PI+PI-
169	----------	PP=N***1920N=N***1236NPI+PI-
170	----------	PP=N***1920N=S+NK+
171	----------	PP=N***1920N=Y**1385NK+
172	----------	PP=N**192CP=PPPIC
173	----------	PP=N**192CP=PPPI+PI-
174	----------	PP=N**1920P=PPPI+PI-PIO
175	----------	PP=N**1920P=PNPI+
176	----------	PP=N**192CP=PNPI+PI+PI-
177	----------	PP=N+219CP
178	----------	PP=N***2360N=PNPI+
179	----------	PP=N**2360P=PPPIC
180	----------	PP=N**236CP=PPPI+PI-
181	----------	PP=N**2360P=PNPI+
182	----------	PP=LPK+
183	----------	PP=LPK+PIO
184	----------	PP=LPK+PIC (NON RESONANT)
185	----------	PP=LPK+PI+PI-
186	----------	PP=LPK+PI+PI-PIO
187	----------	PP=LPKCPI+
188	----------	PP=LPKOPI+ (NON RESONANT)
189	----------	PP=LPKOPI+PIO
190	----------	PP=LPKOPI+PI+PI-
191	----------	PP=LPKOPI+PI+PI-PIC
192	----------	PP=LPK**890=LPK+PIC
193	----------	PP=LPK**890=LPKOPI+
194	----------	PP=LNK+PI+
195	----------	PP=LNK+PI+ (NON RESONANT)
196	----------	PP=LNK+PI+PI+PI-
197	----------	PP=LNKOPI+PI+
198	----------	PP=LNKOPI+PI+PI+PI-
199	----------	PP=Y
200	----------	PP=Y(N/P)KPI
201	----------	PP=YK
202	----------	PP=SO/L
203	----------	PP=(SC/L)KO
204	----------	PP=(SO/L)PK+PIC
205	----------	PP=(SO/L)PKCPI+
206	----------	PP=(SO/L)NK+PI+
207	----------	PP=S+
208	----------	PP=S+PK+PI-
209	----------	PP=S+PK+PI-PIO
210	----------	PP=S+PKO
211	----------	PP=S+PKOPIO
212	----------	PP=S+PKOPI+PI-

```
213 ----------  PP=S+PKOPI+PI-PIO
214 ----------  PP=S+(P/N)KPI
215 ----------  PP=S+NK+
216 ----------  PP=S+NK+PI+PI-
217 ----------  PP=S+NKOPI+
218 ----------  PP=S+NKOPI+PI+PI-
219 ----------  PP=S+KO
220 ----------  PP=S+KOZO
221 ----------  PP=S-
222 ----------  PP=S-PK+PI+
223 ----------  PP=S-PK+PI+PIO
224 ----------  PP=S-PKOPI+PI+
225 ----------  PP=S-PKOPI+PI+PIO
226 ----------  PP=S-NK+PI+PI+
227 ----------  PP=S-NKOPI+PI+PI+
228 ----------  PP=S-KO
229 ----------  PP=SOPK+
230 ----------  PP=SOPK+PI+PI-
231 ----------  PP=SOPKOPI+
232 ----------  PP=SOPKOPI+PI+PI-
233 ----------  PP=Y**1385PKO
234 ----------  PP=Y**1385NK+
235 ----------  PP=Y*C1385PK+
236 ----------  PP=XI-
237 ----------  PP=XI-KK
238 ----------  PP=PI+
239 ----------  PP=PI-
240 ----------  PP=PI
241 ----------  PP=2PI
242 ----------  PP=PI+PI+ZO
243 ----------  PP=3PI
244 ----------  PP=4PI
245 ----------  PP=PI+PI+PI+PI-ZO
246 ----------  PP=K+
247 ----------  PP=KO
248 ----------  PP=KOKO
249 ----------  PP=RH
250 ----------  PP=AL
251 ----------  PN=TOTAL
252 ----------  PN=PN
253 ----------  PN=PPPI-
254 ----------  PN=PPPI-PIO
255 ----------  PN=PNPI+PI-
256 ----------  PN=N***1236NPI-
257 ----------  PN=N***1236N*-1236
258 ----------  PN=N**1236PPI-=PPPI-PIO
259 ----------  PN=N**1236PPI-=PNPI+PI-
260 ----------  PN=N**1236N*01236
261 ----------  PN=N**1236N*C1236=N**1236PPI-
262 ----------  PN=N*-1236PPI+
263 ----------  PN=N*01236P=PPPI-
264 ----------  PN=N*01236PPIC=PPPI-PIO
265 ----------  PN=N*01236NPI+=PNPI+PI-
266 ----------  PDE=TOTAL
267 ----------  PDE=PDE
268 ----------  PDE=INELASTIC
269 ----------  PDE=DEPPI+PI-
270 ----------  PDE=DE(PPIO/NPI+)PI+PI-
271 ----------  PDE=PPPPI-
272 ----------  PHE=TOTAL
273 ----------  PHE=PHE
274 ----------  PHE=INELASTIC
```

TABLE 6

DESCRIPTION

At the top of each page we print the initial state particles. For each reaction we then print the number assigned to it, and the relative final state, together with a table of momenta and cross sections.

In the table the first three columns describe the initial state, they are labelled, s, K. ENERGY, and PLAB, and represent, respectively, the total c.m. energy squared in GeV^2, the kinetic energy in GeV of the incident particle and the laboratory momentum in GeV/c of the incident particle. In the fourth column, is the cross section in millibarns unless otherwise stated. In the fifth column, headed ERROR is the error on the cross section in the same units; however if the error quoted is asymmetric, the plus error is given in the fifth column and the negative error in the sixth (which does not have a heading). In the next section is given the reference which is so entitled. Should a footnote be required a symbol is printed in the last column and then is reprinted and explained at the bottom of the page under the heading ="FOOTNOTES".

Finally, if there are sufficient data points a fit of the formula

$$\sigma = K \; p_{LAB}^{+N}$$

is made and the results of this fit are given, that is the values and errors of K and N are quoted together with the number of points fitted, the χ^2 - value and the probability of the fit. The fit is made to all data values above a certain lower limit of p_{LAB} and the value of the lower limit is also printed.

********** PP **********

S	K.ENERGY	PLAB	CROSS SECTION	ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 1							
TOTAL							
3.791	.144	.535	20.2000	.7000		MARSHALL PR1C3,222-56	
3.858	.179	.607	24.4000	.2440		SCHWALLE,PL35B,243-71	
3.911	.208	.658	25.8000	2.0000		CARVALHC PR96,398-54	
4.023	.267	.757	23.7000	.2130		SCHWALLE,PL35B,243-71	
4.030	.271	.763	23.1000	2.1000		MARSHALL PR1C3,222-56	
4.113	.315	.831	24.3000	1.0000		CARVALHC PR96,398-54	
4.164	.343	.872	24.3000	.2180		SCHWALLE,PL35B,243-71	
4.249	.388	.937	25.5000	.2290		SCHWALLE,PL35B,243-71	
4.284	.406	.963	26.1500	.2350		SCHWALLE,PL35B,243-71	
4.288	.408	.966	24.0000	1.0000		MARSHALL PR91,767-53	
4.290	.410	.968	26.5000	1.4000	1.3000	CHEN PR1C3,211-56	
4.290	.410	.968	26.9000	.7000		DZHELE,DOKY1C4,380-55	
4.308	.419	.981	23.9000	1.1000		MARSHALL PR1C3,222-56	
4.327	.429	.995	24.2000	ERROR NOT GIVEN		MARSHALL PR92,834-53	
4.327	.429	.995	24.3000	1.3000		MARSHALL PR1C3,222-56	$
4.341	.437	1.005	23.8000	1.2000		SUTTON PR97,783-55	
4.346	.440	1.009	27.6000	.2340		SCHWALLE,PL35B,243-71	
4.348	.440	1.010	27.0000	2.0000		SMITH PR97,1186-55	
4.385	.460	1.037	28.0000	2.0000		MESC.NCS3,119-56	
4.438	.489	1.075	27.6000	.4000		DZHELE,DOKY1C4,380-55	
4.459	.500	1.090	29.9000	.4000		DZHELE,DOKY1C4,380-55	
4.464	.502	1.093	30.7500	.2610		SCHWALLE,PL35B,243-71	
4.485	.514	1.108	31.4500	.2670		SCHWALLE,PL35B,243-71	
4.489	.516	1.111	34.0290	.1700		BUGG PR146,980-66	
4.512	.528	1.127	30.0000	7.0000		ELIOFF PRL3,285-59	$
4.525	.535	1.136	29.8000	1.3000	1.1000	CHEN PR1C3,211-56	$
4.534	.540	1.142	32.1000	.5000		DZHELE,DOKY1C4,380-55	
4.563	.555	1.162	34.3000	.3260		SCHWALLE,PL35B,243-71	
4.610	.580	1.194	35.6000	.5000		DZHELE,DOKY1C4,380-55	
4.629	.591	1.207	36.0000	3.0000		SMITH PR97,1186-55	$
4.676	.615	1.238	37.7000	1.4000	1.0000	CHEN PR1C3,211-56	
4.685	.620	1.244	38.6000	.5000		DZHELE,DOKY1C4,380-55	
4.722	.640	1.269	39.8000	.6000		DZHELE,DOKY1C4,380-55	
4.742	.650	1.282	41.8000	1.1000		GUZAVIN JETP19,847-64	
4.752	.656	1.289	43.2340	.1130		BUGG PR146,980-66	
4.754	.657	1.290	41.0000	2.0000		MESC.NCS3,119-56	$
4.755	.658	1.291	36.6000	.5000		DZHELE,DOKY1C4,380-55	
4.760	.660	1.294	41.4000	.6000		SIDOROV JETP4,22-57	
4.909	.740	1.391	44.4000	2.8000	2.6000	CHEN PR1C3,211-56	$
4.923	.747	1.400	46.9000	1.0000	.6000	LONGC PRL3,568-59	$
4.936	.754	1.408	46.4870	.0520		BUGG PR146,980-66	
4.954	.764	1.420	46.2000	.5000	.4500	LONGC PR125,701-62	
5.017	.797	1.460	47.5000	2.2000	1.1000	LONGC PRL3,568-59	$
5.022	.800	1.463	47.0000	2.0000		SMITH PR97,1186-55	$
5.041	.810	1.475	45.0000	6.0000		MORRIS PR1C3,1472-56	$
5.070	.830	1.499	47.8000	1.6000	1.2000	CHEN PR1C3,211-56	
5.116	.850	1.522	47.6000	1.6000	1.2000	CHEN PR1C3,211-56	
5.228	.910	1.592	46.1000	.5000		LAW NPS,600-59	
5.241	.917	1.600	47.5000	1.0200	.6100	LONGC PR125,701-62	
5.253	.923	1.607	47.4760	.0580		BUGG PR146,980-66	
5.287	.941	1.628	49.0000	5.0000		ELIOFF PRL3,285-59	$
5.339	.969	1.660	47.5530	.0580		BUGG PR146,980-66	
5.398	1.000	1.696	48.0000	2.0000		SMITH PR97,1186-55	$
5.398	1.000	1.696	47.4000	3.0000		IGC NPB3,181-67	$
5.454	1.030	1.730	46.2000	.8200	.4600	LONGC PR125,701-62	$
5.536	1.074	1.780	47.4900	.0460		BUGG PR146,980-66	
5.538	1.075	1.781	48.3000	1.6000	1.1000	CHEN PR1C3,211-56	$
5.667	1.143	1.858	47.4550	.0410		BUGG PR146,980-66	
5.720	1.172	1.890	46.8000	1.5100	.6800	LONGC PR125,701-62	$
5.804	1.217	1.940	47.3570	.0460		BUGG PR146,980-66	
5.825	1.228	1.952	47.4090	.0410		BUGG PR146,980-66	
5.915	1.275	2.005	47.5000	1.6000	1.1000	CHEN PR1C3,211-56	$
5.952	1.295	2.027	49.4000	1.6000	1.1000	CHEN PR103,211-56	$
5.991	1.316	2.050	45.3000	1.1200	.4700	LONGC PR125,701-62	$
6.041	1.343	2.079	47.2240	.0410		BUGG PR146,980-66	
6.249	1.453	2.200	47.2000	ERROR NOT GIVEN		KRUCHININ JNP1,225-65	$
6.269	1.465	2.212	46.9850	.0460		BUGG PR146,980-66	
6.318	1.490	2.240	47.2000	2.6000	1.2000	CHEN PR1C3,211-56	$
6.387	1.527	2.280	46.6690	.0410		BUGG PR146,980-66	
6.629	1.656	2.419	46.1300	.0410		BUGG PR146,980-66	
6.684	1.685	2.450	45.8270	.0410		BUGG PR146,980-66	
6.719	1.704	2.470	45.1000	.8300	.4500	LONGC PR125,701-62	$
6.933	1.818	2.592	45.5330	.0410		BUGG PR146,980-66	
7.089	1.901	2.680	45.3310	.0410		BUGG PR146,980-66	
7.132	1.924	2.704	45.1740	.0410		BUGG PR146,980-66	
7.274	2.000	2.784	41.4000	3.2000	1.4000	CHEN PR103,211-56	$
7.336	2.033	2.819	45.0080	.0410		BUGG PR146,980-66	
7.404	2.069	2.857	44.9280	.0410		BUGG PR146,980-66	
7.584	2.165	2.958	44.6510	.0410		BUGG PR146,980-66	
7.605	2.176	2.970	44.5000	.4600	.4200	LONGC PR125,701-62	$
7.648	2.199	2.994	44.4660	.0410		BUGG PR146,980-66	
7.659	2.205	3.000	44.3200	.0600		RILEY,PR1,2481-70	
7.659	2.205	3.000	44.4700	.0400		RILEY,PR1,2481-70	
7.756	2.257	3.054	44.4010	.0410		BUGG PR146,980-66	
7.856	2.310	3.110	44.1880	.0410		BUGG PR146,980-66	
7.894	2.330	3.131	44.1560	.0410		BUGG PR146,980-66	
7.914	2.341	3.142	44.1140	.0410		BUGG PR146,980-66	
8.144	2.464	3.270	47.1000	.9000		DIDDENS PRL9,32-62	
8.157	2.470	3.277	43.6100	.0410		BUGG PR146,980-66	
8.204	2.495	3.303	43.6690	.0410		BUGG PR146,980-66	
8.401	2.600	3.412	41.6000	4.0000	1.6000	CHEN PR1C3,211-56	$
8.459	2.631	3.444	43.1380	.0410		BUGG PR146,980-66	
8.644	2.730	3.546	42.9780	.0370		BUGG PR146,980-66	
8.705	2.763	3.580	43.2000	.4300		LONGC PR125,701-62	
8.869	2.850	3.670	42.1000	1.2000		HART PR126,747-62	
8.980	2.909	3.731	42.6800	.0410		BUGG PR146,980-66	
9.302	3.081	3.908	42.3160	.0410		BUGG PR146,980-66	
9.470	3.170	4.000	41.6000	.6200		LONGC PR125,701-62	
9.470	3.170	4.000	43.0000	1.5000		COLETTI NC49A,479-67	
9.538	3.206	4.037	42.1360	.0410		BUGG PR146,980-66	
9.955	3.429	4.265	41.7650	.0410		BUGG PR146,980-66	
10.405	3.668	4.510	42.1000	.7000		DIDDENS PRL9,32-62	
10.482	3.709	4.552	41.4570	.0410		BUGG PR146,980-66	
10.907	3.936	4.783	41.3770	.0370		BUGG PR146,980-66	
11.244	4.116	4.966	41.1650	.0410		BUGG PR146,980-66	

FOOTNOTES

$=DATA POINT NOT USED IN FITTING OR PLOTTING

********** PP **********

	S	K.ENERGY	PLAB	CROSS SECTION	ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 1								
TOTAL								
(CONTINUATION)	11.307	4.149	5.CCC	43.7CCC	.7CCC		VCN CARDEL,149,ROCH6C	
	11.715	4.366	5.221	41.1710	.0320		BUGG PR146,980-66	
	12.231	4.641	5.500	41.6000	1.4CCC		ALEXANC.PR154,1284-67	
	12.279	4.667	5.526	40.878C	.C41C		BUGG PR146,980-66	
	12.830	4.961	5.824	4C.E480	.C41C		BUGG PR146,980-66	
	12.841	4.967	5.830	41.6000	.600C		DICCENS PRL9,32-62	
	13.157	5.135	6.000	43.7000	.4CCC		VCN CARDEL,149,ROCH6C	
	13.157	5.135	6.CCC	4C.6CCC	.6CCC		GALBR.PR138B,913-65	
	15.014	6.124	7.CCC	43.3CCC	.4CCC		VON CARCEL,149,ROCH6C	
	16.410	6.868	7.750	41.6000	1.1000		DICCENS PRL9,32-62	
	16.540	6.938	7.820	40.3400	.12CC		FCLEY PRL19,857-67	
	16.568	6.953	7.835	4C.C750	.C52C		BUGG PR146,980-66	
	16.596	6.968	7.850	40.0000	.600C		TAYLCR PL14,54-65	
	16.876	7.117	8.CCC	4C.CCCC	.6CCC		GALBR.PR138B,913-65	
	17.062	7.216	8.1CC	4C.1CCC	.2CCC		GINESTET,NPB13,283-69	
	20.235	8.907	9.800	39.8400	.12C0		FCLEY PRL19,857-67	
	20.421	9.CC6	9.900	39.4000	1.5000		ASHMORE PRL5,576-60	$
	20.608	9.106	10.CC0	42.1000	.4CCC		VON CARDEL,149,ROCH6C	
	20.608	9.106	10.CCC	41.1CCC	1.7CCC		ALMEIDA PR174,1638-68	
	20.608	9.106	10.CCC	4C.2CCC	.2CCC		BELLETTI. FL19,705-66	
	20.608	9.106	10.CC0	39.9000	.6CCC		GALER.FR138B,913-65	
	21.916	9.803	10.700	40.1000	.6CCC		VON CARDEL,149,ROCH60	
	24.160	10.999	11.9CC	39.6200	.12CC		FCLEY PRL19,857-67	
	24.348	11.098	12.CCC	39.4CCC	.6CCC		GALER.FR138B,913-65	
	25.096	11.497	12.400	39.C000	1.5000		ASHMORE PRL5,576-60	$
	28.091	13.093	14.000	39.1000	.6CCC		GALBR.PR138B,913-65	
	28.109	13.103	14.C1C	39.42CC	.12CC		FCLEY PRL19,857-67	
	29.963	14.C91	15.CCC	39.5CCC	1.CCCC		LINDENBA. FRL7,185-61	1
	29.963	14.091	15.C00	39.2900	.12C0		DENISCV,PL36B,415-71	
	31.462	14.890	15.800	38.7000	1.5CCC		ASHMORE PRL5,576-60	$
	31.836	15.089	16.000	38.7000	.6CCC		GALER.PR138B,913-65	
	31.893	15.119	16.03C	39.23CC	.12CC		FCLEY PRL19,857-67	
	35.022	16.787	17.7CC	39.7CCC	1.5CCC		ASHMORE PRL5,576-60	$
	35.415	16.996	17.910	39.1800	.12CC		FCLEY PRL19,857-67	
	35.584	17.C86	18.CCC	38.70C0	.6CCC		GALBR.PR138B,913-65	
	38.C76	18.415	19.33C	38.9CCC	.3CCC		BELLETTI. FL14,164-65	
	38.208	18.484	19.400	39.7000	1.5000		ASHMORE PRL5,576-60	$
	39.332	19.084	20.000	38.4000	.6CCC		GALBR.PR138B,913-65	
	39.332	19.084	2C.CCC	39.C6CC	.12CC		DENISCV,PL36B,415-71	
	39.745	19.304	2C.22C	39.C5CC	.12CC		FCLEY PRL19,857-67	
	40.194	19.543	2C.460	39.0900	.12CC		FCLEY PRL19,857-67	
	41.957	20.482	21.400	39.4000	1.5CCC		ASHMORE PRL5,576-60	$
	43.081	21.082	22.000	38.3000	.6CCC		GALBR.PR138B,913-65	
	43.081	21.082	22.CCC	38.88CC	.12CC		FCLEY PRL19,857-67	
	46.831	23.C80	24.CCC	38.85CC	.12CC		FCLEY PRL19,857-67	
	46.831	23.080	24.C00	41.7000	2.CCCC		COCC,433,AIX61	$
	47.206	23.280	24.200	38.7000	1.5CCC		ASHMORE PRL5,576-60	$
	47.769	23.580	24.500	39.3000	.8CCC		BREITENLCHN.PL7,73-63	
	48.706	24.C79	25.CC0	38.8CCC	.12CC		DENISCV,PL36B,415-71	
	5C.582	25.C79	26.CCC	38.9CCC	.12CC		FCLEY PRL19,857-67	
	51.369	25.498	26.420	38.8000	.3CCC		BELLETTI. PL14,164-65	
	55.083	27.477	28.400	39.9000	1.5CCC		ASHMORE PRL5,576-60	$
	58.084	29.076	30.000	38.5900	.12CC		DENISCV,PL362,415-71	
	67.462	34.C74	35.CC0	38.49CC	.12CC		DENISCV,PL36B,415-71	
	76.842	39.073	4C.CCC	38.5CCC	.12CC		DENISCV,PL36B,415-71	
	86.222	44.C72	45.C00	38.4500	.12C0		DENISCV,PL36B,415-71	
	91.850	47.071	48.000	38.5000	.1CCC		BARTEN.,PRL29,1755-72	
	95.603	49.071	5C.CCC	38.46CC	.12CC		DENISCV,PL36B,415-71	
	95.603	49.071	5C.CCC	37.74CC	1.18CC		AMOSCV,PL42B,519-72	
	104.984	54.070	55.C00	38.4300	.12CC		DENISCV,PL36B,415-71	
	114.365	59.069	60.000	38.44CC	.12CC		DENISOV,PL36B,415-71	
	131.252	68.068	69.CCC	36.68CC	.53CC		AMMOSCV,PL42B,519-72	
	138.757	72.068	73.CCC	37.6CCC	1.1CCC		BARTEN.,PRL29,1755-72	
	185.667	97.066	98.000	37.6000	1.1000		BARTEN.,PRL29,1755-72	
	193.173	101.066	102.000	39.7000	1.5CCC		CHAPMAN,PRL29,1686-72	
	230.702	121.C65	122.CCC	37.CCCC	1.1CCC		BARTEN.,PRL29,1755-72	
	277.614	146.C65	147.CCC	37.6CC0	1.1CC0		BARTEN.,PRL29,1755-72	
	324.526	171.064	172.000	37.4000	1.1000		BARTEN.,PRL29,1755-72	
	369.561	195.064	196.CCC	38.5C00	1.2CCC		BARTEN.,PRL29,1755-72	
	386.450	204.064	205.CCC	39.5CC0	1.1CCC		CHARLTCN,PRL29,515-72	
	545.952	289.063	29C.CCC	38.9CCC	.7000		AMALDI,PL,TBP72	
	545.952	289.063	290.000	39.1000	.4000		AMALDI,PL,TBP73	
	548.016	29C.163	291.100	39.3C00	.79CC		AMENDOLIA,PL,TBP-73	
	570.347	302.063	303.CCC	39.CCCC	1.CCCC		DAC,PRL29,1627-72	
	931.949	494.763	495.7CC	4C.85C0	.82C0		AMENDOLIA,PL,TBP-73	
	932.512	495.063	496.000	38.5000	1.0000		ACGHT,BATAVIA-72	
	940.018	499.063	500.CCC	4C.2C00	.8CC0		AMALDI,PL,TBP72	
	940.018	499.063	5CC.CCC	4C.5CCC	.5CC0		AMALDI,PL,TBF73	
	2005.876	1067.062	1068.CCC	38.C000	1.CCCC		ACGHT,BATAVIA-72	
	2005.876	1067.062	1068.000	42.5700	.86C0		AMENDOLIA,PL,TBP-73	
	2009.629	1069.062	1070.C00	42.5CC0	.5CCC		AMALDI,PL,TBP73	
	2775.246	1477.062	1478.CCC	42.98CC	.84CC		AMENDOLIA,PL,TBP-73	
	2778.999	1479.062	148C.C00	43.2000	.5CC0		AMALDI,PL,TBP73	
	2780.875	1480.062	1481.000	38.5000	1.0000		ACGHT,BATAVIA-72	
THRESHOLD	3.52	C.CO	C.CC				189 DATA PCINTS LISTED	
..... REACTION 2								
PP	4.307	.418	.98C	24.CCCC	1.CCCC		FOCARDI NC39,405-65	
	4.327	.429	.995	2C.7000	ERROR NOT GIVEN		MARSHALL PR92,834-53	
	4.348	.440	1.010	24.C000	2.CCCC		SMITH PR97,1186-55	
	4.385	.46C	1.C37	22.CCCC	2.CCCC		MESC.NCS3,119-56	
	4.512	.528	1.127	24.CCCC	5.CCCC		ELICFF PRL3,285-59	
	4.572	.560	1.168	25.2000	.8000		MESCHER.JETP4,60-57	
	4.629	.591	1.207	25.C000	2.CCCC		SMITH PR97,1186-55	
	4.742	.650	1.282	25.1CCC	.8CCC		GLZAVIN JETP19,847-64	

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FOOTNOTES

$=DATA POINT NOT USED IN FITTING OR PLOTTING
1=AVERAGE VALUE OVER A BAND OF MOMENTA

PP

	S	K.ENERGY	PLAB	CROSS SECTION	ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 2								
PP	4.754	.657	1.290	23.0000	2.0000		MESC.NCS3,119-56	
(CONTINUATION)	4.760	.660	1.294	24.7000	1.0000		MESCHER.JETP4,60-57	
	5.022	.800	1.463	21.0000	2.0000		SMITH PR97,1186-55	
	5.041	.810	1.475	24.0000	3.0000		MORRIS PR103,1472-56	
	5.287	.941	1.628	26.0000	3.0000		ELIOFF PRL3,285-59	
	5.339	.969	1.660	26.8000	2.3000		MCFARLANE NC28,943-63	
	5.339	.969	1.660	24.8000	.9000		BUGG PR133B,1017-64	
	5.388	.995	1.690	28.2000	2.1000		MURRAY NC49A,261-67	
	5.398	1.000	1.696	19.0000	3.0000		SMITH PR97,1186-55	
	5.398	1.000	1.696	20.8000	1.0000		COWELL NC1B,818-60	
	6.249	1.453	2.200	22.2000	3.4000		KRUCHININ JNF1,225-65	
	6.301	1.481	2.230	19.8600	.7300	.6400	EISNER PR138B,670-65	
	6.335	1.500	2.250	20.0000	ERROR NOT GIVEN		FOWLER PR103,1479-56	
	7.160	1.939	2.720	21.4000	1.4000		FUJII PR126,1836-62	
	7.314	2.021	2.807	19.2100	.4800		FICKI. PR125,2082-62	
	7.320	2.024	2.810	19.2100	.4800		PICK.PR125,2091-62	
	7.480	2.110	2.900	17.0000	.8000		FUJII PR126,1836-62	
	7.731	2.243	3.040	17.0000	ERROR NOT GIVEN		CORK PR107,859-57	
	8.687	2.753	3.570	15.0000	ERROR NOT GIVEN		BLOCK PR103,1484-56	
	8.869	2.850	3.670	15.3200	.7600		SMITH PR123,2160-61	
	8.887	2.859	3.680	15.6000	.7700		GALBR.PR138B,913-65	
	8.924	2.879	3.700	14.7000	.7000		FUJII PR126,1836-62	
	9.452	3.161	3.990	13.5000	.3000		BODINI NC58A,475-68	
	11.104	4.041	4.890	10.0000	ERROR NOT GIVEN		CORK PR107,859-57	
	12.231	4.641	5.500	11.9900	.2500		ALEXAND.PR154,1284-67	
	14.642	5.926	6.800	11.7900	.2200		FOLEY PRL11,425-63	
	14.865	6.045	6.920	11.4000	.5000		ALEXAND.PR173,1322-68	
	15.070	6.154	7.030	8.0000	ERROR NOT GIVEN		CORK PR107,859-57	
	17.062	7.216	8.100	10.8000	.4000		GINESTET,NPB13,283-69	
	17.528	7.464	8.350	8.7400	.4000		AZIMOV,91,ROCH60	
	17.808	7.613	8.500	9.6800	.9200		HARTING NC38,60-65	
	18.368	7.912	8.800	11.7100	.2200		FOLEY PRL11,425-63	
	20.608	9.106	10.000	10.2000	.6000		ALMEIDA PR174,1638-68	
	22.103	9.902	10.800	11.0400	.2200		FOLEY PRL11,425-63	
	24.535	11.198	12.100	10.4000	1.7000		DIDDENS PRL9,32-62	
	25.096	11.497	12.400	8.9000	.6800		HARTING NC38,60-65	
	25.844	11.896	12.800	10.8900	.3000		FOLEY PRL11,425-63	
	29.963	14.091	15.000	8.1300	.3000		ABRAMS,PRL25,699-70	
	30.900	14.590	15.500	9.2000	1.8000		DIDDENS PRL9,32-62	
	33.148	15.788	16.700	9.7400	.3700		FOLEY PRL11,425-63	
	36.333	17.486	18.400	8.8000	.9500		HARTING NC38,60-65	
	36.708	17.685	18.600	10.2000	1.8000		DIDDENS PRL10,71E-63	
	37.458	18.085	19.000	8.7000	.5000		BOGGILD PL30B,369-69	
	38.582	18.684	19.600	9.6400	.4400		FOLEY PRL11,425-63	
	41.957	20.482	21.400	8.0000	1.6000		DIDDENS PRL9,32-62	
	46.831	23.080	24.000	9.8000	1.0000		DODD,433,AIX61	
	47.769	23.580	24.500	8.8000	.3000		BREITENLOHN.PL7,73-63	
	50.957	25.279	26.200	9.8000	2.2000		DIDDENS PRL9,108-62	
	58.084	29.076	30.000	7.7000	.2000		CHERNEV,PL36B,266-71	
	95.603	49.071	50.000	6.9000	.2000		CHERNEV,PL36B,266-71	
	133.128	69.068	70.000	7.0000	.2000		CHERNEV,PL36B,266-71	
	193.173	101.066	102.000	6.9000	1.0000		CHAPMAN,PRL25,1686-72	
	386.450	204.064	205.000	6.8000	.3000		CHARLTON,PRL29,515-72	
	545.952	289.063	290.000	6.7000	.3000		AMALDI,PL,TBP72	
	545.952	289.063	290.000	6.8000	.3000		AMALDI,PL,TBP73	
	570.347	302.063	303.000	7.2000	.4000		DAC,PRL29,1627-72	
	940.018	499.063	500.000	6.8000	.6000		HOLDER,PL35B,361-71	
	940.018	499.063	500.000	6.9000	.4000		AMALDI,PL,TBP72	
	940.018	499.063	500.000	7.0000	.3000		AMALDI,PL,TBP73	
	2009.629	1069.062	1070.000	7.5000	.3000		AMALDI,PL,TBP73	
	2778.999	1479.062	1480.000	7.6000	.3000		AMALDI,PL,TBP73	
THRESHOLD	3.52	0.00	0.00				69 DATA POINTS LISTED	
..... REACTION 3								
2 PRONGS	7.314	2.021	2.807	43.8000	1.6000		FICKI. PR125,2082-62	
	9.470	3.170	4.000	34.1000	1.1000		COLETTI NC49A,479-67	
	14.270	5.728	6.600	27.0000	1.1000		GELLERT,LBL,784-72	
	14.865	6.045	6.920	28.4000	.3000		ALEXANDER FEID67	
	17.062	7.216	8.100	26.1000	1.4000		GINESTET,NPB13,283-69	
	20.608	9.106	10.000	24.7000	1.1000		ALMEIDA PR174,1638-68	
	46.831	23.080	24.000	17.1000	1.7000		NILSSON NC43A,716-66	
THRESHOLD	2.05	0.00	0.00				7 DATA POINTS LISTED	
				FIT OF SIGMA AGAINST PLAB GEV/C				
				6 DATA POINTS USED ABOVE 3.0 GEV/C , PROB. = .94				
				K = 57.04 +- 9.65 N = -.36 +- .09				
..... REACTION 4								
2 PRONGS,INELASTIC	14.270	5.728	6.600	16.8300	.7000		GELLERT,LBL,784-72	
	37.458	18.085	19.000	9.1000	.2000		BOGGILD,NPB27,285-71	
	95.603	49.071	50.000	5.9700	.8800		AMMOSOV,PL42B,519-72	
	131.252	68.068	69.000	4.8400	.4200		AMMOSOV,PL42B,519-72	
	193.173	101.066	102.000	4.8000	.6000		CHAPMAN,PRL29,1686-72	
	386.450	204.064	205.000	3.4900	.8700		CHARLTON,PRL29,515-72	
	570.347	302.063	303.000	1.7800	.5600		DAC,PRL29,1627-72	
THRESHOLD	4.04	.28	.77				7 DATA POINTS LISTED	
				FIT OF SIGMA AGAINST PLAB GEV/C				
				7 DATA POINTS USED ABOVE 5.0 GEV/C , PROB. = .89				
				K = 42.42 +- 7.08 N = -.52 +- .06				
..... REACTION 5								
2 PRONGS,KO	12.231	4.641	5.500	.0282	.0110		ALEXAND.PR154,1284-67	
THRESHOLD	3.71	.10	.45					

PP

		S	K.ENERGY	PLAB	CROSS SECTION	ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 6									
2 PRONGS,SO/L		12.231	4.641	5.500	.0305	.0115		ALEXANC.PR154,1284-67	
	THRESHOLD	6.48	1.58	2.33					
..... REACTION 7									
2 PRONGS,ZO		12.231	4.641	5.5CC	7.85C0	.2CCC		ALEXANC.PR154,1284-67	
	THRESHOLD	2.93	0.CO	0.00					
..... REACTION 8									
4 PRONGS		9.452	3.161	3.990	7.5000	.2000		BOCINI NC58A,475-68	
		9.470	3.170	4.CCC	5.57C0	.33C0		KICC,348,SIE63	
		14.270	5.728	6.6CC	1C.5CCC	.46C0		GELLERT,LBL,784-72	
		2C.6C8	9.106	1C.CCC	12.7CC0	.6000		ALMEICA PR174,1638-6E	
		25.994	11.976	12.880	13.0000	.4000		SMITH,UCLR20632-71	
		35.584	17.C86	18.CC0	12.8000	.3CCC		SMITH,LCLR2C632-71	
		37.458	18.C85	19.CCC	13.2CCC	.2CCC		BOGGILC,NPB27,285-71	
		41.357	2C.163	21.C8C	12.C000	.3000		SMITH,LCLR20632-71	
		46.831	23.080	24.000	12.6000	.80C0		NILSSON NC43A,716-66	
		47.056	23.2C0	24.12C	11.80C0	.3CCC		SMITH,LCLR2C632-71	
		55.158	27.517	28.44C	11.1CCC	.3CCC		SMITH,LCLR2C632-71	
		95.603	49.C71	5C.CC0	9.4000	.47C0		AMMOSCV,PL42B,519-72	
		131.252	68.068	69.000	8.6300	.21C0		AMMOSCV,PL42B,519-72	
		193.173	101.066	102.CC0	8.1CC0	.5CCC		CHAPMAN,PRL29,1686-72	
		386.45C	2C4.C64	205.CCC	5.55CC	.28CC		CHARLTCN,PRL29,515-72	
		570.347	3C2.C63	3C3.000	4.8400	.3CC0		CAC,PRL29,1627-72	
	THRESHOLD	2.93	C.CC	C.CO				16 CATA PCINTS LISTED	

FIT CF SIGMA AGAINST PLAB GEV/C

11 CATA PCINTS USED ABCVE 15.C GEV/C , PROB. = .96
K = 34.45 +- 3.CC N = -.33 +- .C3

..... REACTION 9									
4 PRONGS,ZO		12.231	4.641	5.5CC	1.55C0	.C6CC		ALEXANC.PR154,1284-67	
	THRESHOLD	3.97	.24	.71					
..... REACTION 10									
6 PRONGS		9.452	3.161	3.990	.0900	.02CC		BOCINI NC58A,475-68	
		14.270	5.728	6.6CC	.727C	.C94C		GELLERT,LBL,784-72	
		14.865	6.045	6.92C	1.08CC	.C7CC		CANIELI,NPB27,157-71	
		2C.6C8	9.106	1C.CCC	2.4CC0	.15C0		ALMEICA PR174,1638-6E	
		20.608	9.106	10.C00	2.4500	.14C0		HCLMGREN NC57A,2C-68	
		25.994	11.976	12.88C	3.9CC0	.2CCC		SMITH,LCLR2C632-71	
		35.584	17.086	18.CCC	5.2CCC	.2CCC		SMITH,LCLR2C632-71	
		37.458	18.085	19.CCC	5.8000	.15C0		BOGGILC,NPB27,285-71	
		41.357	20.163	21.080	5.9000	.2CC0		SMITH,LCLR20632-71	
		46.831	23.C80	24.CC0	6.4CC0	.5CCC		NILSSON NC43A,716-66	
		47.056	23.2C0	24.12C	6.4CCC	.2CCC		SMITH,LCLR2C632-71	
		55.158	27.517	28.44C	6.4CC0	.2CCC		SMITH,LCLR2C632-71	
		55.270	27.577	28.500	5.5C00	ERROR NCT GIVEN		KENYCN NP B13,255-69	
		95.603	49.C71	5C.CCC	7.9900	.43CC		AMMOSCV,PL42B,519-72	
		131.252	68.068	69.CCC	7.9CCC	.2CCC		AMMOSCV,PL42B,519-72	
		193.173	101.066	102.000	7.6000	.5CC0		CHAPMAN,PRL29,1686-72	
		386.450	204.064	205.000	6.9400	.31C0		CHARLTCN,PRL29,515-72	
		570.347	302.063	303.CCC	5.7100	.34CC		CAC,PRL29,1627-72	
	THRESHOLD	3.97	.24	.71				18 CATA POINTS LISTED	
..... REACTION 11									
6 PRONGS,ZO		55.270	27.577	28.500	3.3600	ERROR NCT GIVEN		CONNCL. BAPS12,468-67	
	THRESHOLD	5.17	.88	1.55					
..... REACTION 12									
8 PRONGS		14.270	5.728	6.600	.0220	.C08C		GELLERT,LBL,784-72	
		14.865	6.045	6.92C	.02CC	.C1CC		CANIELI,NPB27,157-71	
		2C.608	9.106	1C.CCC	.224C	.C15C		HCLMGREN NC57A,2C-68	
		20.608	9.106	10.000	.2200	.04CC		ALMEICA PR174,1638-68	
		25.994	11.976	12.88C	.55C0	.C7CC		SMITH,LCLR20632-71	
		35.584	17.086	18.CCC	1.3CCC	.1CCC		SMITH,LCLR2C632-71	
		37.458	18.085	19.CCC	1.4CCC	.1000		BOGGILC,NPB27,285-71	
		41.357	20.163	21.080	1.8000	.10C0		SMITH,LCLR20632-71	
		46.831	23.C80	24.CCC	2.1CC0	.4CCC		NILSSON NC43A,716-66	
		47.056	23.200	24.12C	2.2CCC	.1CCC		SMITH,LCLR2C632-71	
		55.158	27.517	28.440	2.5C00	.10C0		SMITH,UCLR2C632-71	
		55.270	27.577	28.500	2.4CC0	ERROR NOT GIVEN		KENYON NP B13,255-69	
		95.603	49.C71	5C.CCC	5.C2CC	.33CC		AMMOSCV,PL42B,519-72	
		131.252	68.068	69.CCC	5.42C0	.16C0		AMMOSCV,PL42B,519-72	
		193.173	101.066	102.C00	5.8000	.40C0		CHAPMAN,PRL29,1686-72	
		386.450	204.064	205.000	5.7800	.28CC		CHARLTON,PRL29,515-72	
		570.347	3C2.063	3C3.CCC	5.4CCC	.33CC		CAC,PRL29,1627-72	
	THRESHOLD	5.17	.88	1.55				17 CATA PCINTS LISTED	
..... REACTION 13									
8 PRONGS,ZO		55.270	27.577	28.5CC	1.07C0	ERRCR NCT GIVEN		CONNCL. BAPS12,488-67	
	THRESHOLD	6.52	1.60	2.36					

********** PP **********

		S	K.ENERGY	PLAB	CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 14										
10 PRONGS		14.270	5.728	6.600	5.0000	MICROB	5.0000		GELLERT,LBL,784-72	
		20.608	9.106	10.000	3.0000	MICROB	2.0000		HOLMGREN NC57A,20-68	
		25.994	11.976	12.880	.0230		.0080		SMITH,UCLR20632-71	
		35.584	17.086	18.000	.1300		.0200		SMITH,UCLR20632-71	
		37.458	18.085	19.000	.2300		.0400		BOGGILD,NPB27,285-71	
		41.357	20.163	21.080	.3700		.0500		SMITH,UCLR20632-71	
		46.831	23.080	24.000	.3500		.2000		NILSSON NC43A,716-66	
		47.056	23.200	24.120	.2700		.0500		SMITH,UCLR20632-71	
		55.158	27.517	28.440	.8000		.0800		SMITH,UCLR20632-71	
		55.270	27.577	28.500	.4500		ERROR NOT GIVEN		KENYON NP B13,255-69	
		95.603	49.071	50.000	2.0300		.2000		AMMOSOV,PL42B,519-72	
		131.252	68.068	69.000	2.7500		.1100		AMMOSOV,PL42B,519-72	
		193.173	101.066	102.000	3.5000		.3000		CHAPMAN,PRL29,1686-72	
		386.450	204.064	205.000	4.4100		.2500		CHARLTON,PRL29,515-72	
		570.347	302.063	303.000	4.7200		.3200		DAO,PRL29,1627-72	
	THRESHOLD	6.52	1.60	2.36					15 DATA POINTS LISTED	
..... REACTION 15										
12 PRONGS		25.994	11.976	12.880	3.0000	MICROB	3.0000		SMITH,UCLR20632-71	
		35.584	17.086	18.000	.0200		.0060		SMITH,UCLR20632-71	
		37.458	18.085	19.000	.0100		.0060		BOGGILD,NPB27,285-71	
		41.357	20.163	21.080	.0320		.0080		SMITH,UCLR20632-71	
		47.056	23.200	24.120	.0600		.0100		SMITH,UCLR20632-71	
		55.158	27.517	28.440	.0900		.0200		SMITH,UCLR20632-71	
		55.270	27.577	28.500	.0500		ERROR NOT GIVEN		KENYON NP B13,255-69	
		95.603	49.071	50.000	.4800		.1000		AMMOSOV,PL42B,519-72	
		131.252	68.068	69.000	1.2700		.0700		AMMOSOV,PL42B,519-72	
		193.173	101.066	102.000	2.0000		.3000		CHAPMAN,PRL29,1686-72	
		386.450	204.064	205.000	3.4300		.2200		CHARLTON,PRL29,515-72	
		570.347	302.063	303.000	4.1900		.3000		DAO,PRL29,1627-72	
	THRESHOLD	8.03	2.40	3.20					12 DATA POINTS LISTED	
..... REACTION 16										
14 PRONGS		25.994	11.976	12.880	0.0000	MICROB	3.0000		SMITH,UCLR20632-71	$
		35.584	17.086	18.000	4.0000	MICROB	3.0000		SMITH,UCLR20632-71	
		37.458	18.085	19.000	3.0000	MICROB	3.0000		BOGGILD,NPB27,285-71	
		41.357	20.163	21.080	2.0000	MICROB	2.0000		SMITH,UCLR20632-71	
		47.056	23.200	24.120	6.0000	MICROB	4.0000		SMITH,UCLR20632-71	
		55.158	27.517	28.440	.0100		.0050		SMITH,UCLR20632-71	
		95.603	49.071	50.000	.2000		.0600		AMMOSOV,PL42B,519-72	
		131.252	68.068	69.000	.3900		.0400		AMMOSOV,PL42B,519-72	
		193.173	101.066	102.000	.7000		.1500		CHAPMAN,PRL29,1686-72	
		386.450	204.064	205.000	1.7000		.1600		CHARLTON,PRL29,515-72	
		570.347	302.063	303.000	2.1700		.2100		DAO,PRL29,1627-72	
	THRESHOLD	9.69	3.29	4.12					11 DATA POINTS LISTED	
..... REACTION 17										
16 PRONGS		95.603	49.071	50.000	.0100		.0200		AMMOSOV,PL42B,519-72	
		131.252	68.068	69.000	.1100		.0200		AMMOSOV,PL42B,519-72	
		193.173	101.066	102.000	.1900		.0800		CHAPMAN,PRL29,1686-72	
		386.450	204.064	205.000	.8700		.1100		CHARLTON,PRL29,515-72	
		570.347	302.063	303.000	1.3900		.1700		DAO,PRL29,1627-72	
	THRESHOLD	11.51	4.26	5.11					5 DATA POINTS LISTED	
..... REACTION 18										
18 PRONGS		131.252	68.068	69.000	.0100		.0100		AMMOSOV,PL42B,519-72	
		193.173	101.066	102.000	.1000		.0500		CHAPMAN,PRL29,1686-72	
		386.450	204.064	205.000	.3000		.0700		CHARLTON,PRL29,515-72	
		570.347	302.063	303.000	.8700		.1400		DAO,PRL29,1627-72	
	THRESHOLD	13.49	5.31	6.18					4 DATA POINTS LISTED	
..... REACTION 19										
20 PRONGS		386.450	204.064	205.000	.1700		.0500		CHARLTON,PRL29,515-72	
		570.347	302.063	303.000	.5100		.1100		DAO,PRL29,1627-72	
	THRESHOLD	15.63	6.45	7.33					2 DATA POINTS LISTED	
..... REACTION 20										
22 PRONGS		386.450	204.064	205.000	.0500		.0300		CHARLTON,PRL29,515-72	
		570.347	302.063	303.000	.0700		.0600		DAO,PRL29,1627-72	
	THRESHOLD	17.92	7.67	8.56					2 DATA POINTS LISTED	
..... REACTION 21										
24 PRONGS		570.347	302.063	303.000	.1000		.0500		DAO,PRL29,1627-72	
	THRESHOLD	20.37	8.98	9.87						
..... REACTION 22										
26 PRONGS		570.347	302.063	303.000	.0500		.0300		DAO,PRL29,1627-72	
	THRESHOLD	22.97	10.37	11.27						

FOOTNOTES

$=DATA POINT NOT USED IN FITTING OR PLOTTING

PP

		S	K.ENERGY	PLAB	CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 23										
INELASTIC		4.290	.410	.968	3.9000		2.1000		DZHELE,DOKY1C4,380-55	
		4.385	.460	1.037	6.0000		ERROR NOT GIVEN		MESC.NCS3,119-56	
		4.438	.489	1.075	4.6000		2.0000		DZHELE,DOKY1C4,380-55	
		4.459	.500	1.090	6.9000		2.0000		DZHELE,DOKY1C4,380-55	
		4.512	.528	1.127	6.0000		3.0000		ELIOFF PRL3,285-59	
		4.534	.540	1.142	9.1000		2.1000		DZHELE,DOKY1C4,380-55	
		4.572	.560	1.168	8.8700		.6600		BALDONI NC26,1376-62	
		4.610	.580	1.194	12.6000		2.1000		DZHELE,DOKY1C4,380-55	
		4.647	.600	1.219	13.6000		2.1000		DZHELE,DOKY1C4,380-55	
		4.685	.620	1.244	15.6000		2.1000		DZHELE,DOKY1C4,380-55	
		4.722	.640	1.269	16.8000		2.1000		DZHELE,DOKY1C4,380-55	
		4.742	.650	1.282	16.7000		.6000		GLZAVIN JETP19,847-64	
		4.754	.657	1.290	18.0000		ERROR NOT GIVEN		MESC.NCS3,119-56	
		4.760	.660	1.294	18.4000		2.1000		DZHELE,DOKY1C4,380-55	
		5.041	.810	1.475	24.3000		ERROR NOT GIVEN		MORRIS PR1C3,1472-56	
		5.287	.941	1.628	23.0000		3.0000		ELIOFF PRL3,285-59	
		37.458	18.085	19.000	29.8000		ERROR NOT GIVEN		BOGGILD,NPB27,285-71	
		46.831	23.080	24.000	31.9000		1.7000		DODD,433,AIX61	
		193.173	101.066	102.000	32.8000		1.1000		CHAPMAN,PRL29,1686-72	
		386.450	204.064	205.000	32.7000		1.2000		CHARLTON,PRL29,515-72	
		545.052	289.063	290.000	32.5000		.4000		AMALDI,PL,TBP73	
		940.018	499.063	500.000	33.5000		.4000		AMALDI,PL,TBP73	
		2009.629	1069.062	1070.000	35.0000		.5000		AMALDI,PL,TBP73	
		2778.999	1479.062	1480.000	35.6000		.6000		AMALDI,FL,TBP73	
	THRESHOLD	4.04	.28	.77					24 DATA POINTS LISTED	
					FIT OF SIGMA AGAINST PLAB GEV/C					
					7 DATA POINTS USED ABOVE 2C.C GEV/C , PROB. = .94					
					K = 26.32 +- 2.71 N =+ .C4 +- .C2					
..... REACTION 24										
STRANGE PARTICLES		16.633	6.987	7.870	1.8000		.2000		FIREB.PR172,1354-68	S
	THRESHOLD	6.48	1.58	2.33						
..... REACTION 25										
NEUTRAL STRANGE PARTICLES		12.231	4.641	5.500	.4500		.0400		ALEXAND.PR154,1284-67	
	THRESHOLD	7.24	1.98	2.76						
..... REACTION 26										
DEPI+		4.307	.410	.980	.8200		.1400		FOCARDI NC39,405-65	
		4.385	.460	1.037	1.5000		.2000		MESC.NCS3,119-56	
		4.572	.560	1.168	2.7500		.2900		BALDONI NC26,1376-62	
		4.572	.560	1.168	2.6000		.2000		MESCHER.JETP4,60-57	
		4.590	.569	1.180	3.0400		.1400		RICHARD,NPB2C,413-70	F
		4.679	.617	1.240	3.2300		.1400		RICHARD,NPB2C,413-70	F
		4.742	.650	1.282	2.9000		.3000		GLZAVIN JETP19,847-64	
		4.754	.657	1.290	3.1000		.2000		MESC.NCS3,119-56	
		4.760	.660	1.294	3.1000		.2000		MESCHER.JETP4,60-57	
		4.769	.665	1.300	2.7500		.1300		RICHARD,NPB2C,413-70	F
		4.923	.747	1.400	1.6800		.0700		RICHARD,NPB2C,413-70	F
		5.033	.806	1.470	1.1600		.0500		RICHARD,NPB20,413-70	F
		5.339	.969	1.660	.4800		.0800		BUGG PR133B,1017-64	
		5.380	.990	1.685	.5000		.0300		CHAPMAN PL11,253-64	
		6.301	1.481	2.230	.1300		.0500		EISNER PR138B,670-65	
		8.869	2.850	3.670	.1100		.0600		SMITH PR123,2160-61	
		9.470	3.170	4.000	.0270		.0100		COLETTI NC49A,479-67	
		41.394	20.183	21.100	0.0000	MICROB	ERROR NOT GIVEN		ALLABY PL29B,198-69	$
	THRESHOLD	4.06	.29	.79					18 DATA POINTS LISTED	
					FIT OF SIGMA AGAINST PLAB GEV/C					
					8 DATA POINTS USED ABOVE 1.3 GEV/C , PROB. = .02					
					K = 9.51 +- 1.48 N = -5.27 +- .40					
..... REACTION 27										
DEPI+/DEPI+PIO		7.314	2.021	2.807	.1700		.0450		FICKI. PR125,2082-62	
	THRESHOLD	4.07	.29	.79						
..... REACTION 28										
DEPI+PIO		6.301	1.481	2.230	.4300		.0800		EISNER PR138B,670-65	
	THRESHOLD	4.65	.60	1.22						
..... REACTION 29										
DEPI+PI+PI-		8.869	2.850	3.670	.0600		.0200		HART PR126,747-62	
		9.470	3.170	4.000	.0400		.0100		COLETTI NC49A,479-67	
		11.307	4.149	5.000	.0200		.0100		COLLER.PR161,1387-67	
	THRESHOLD	5.27	.93	1.62					3 DATA POINTS LISTED	
..... REACTION 30										
DEPI+PI+PI-/DEPI+PI+PI-PIO		7.314	2.021	2.807	.0550		.0140		PICKLP PR125,2091-62	
	THRESHOLD	5.27	.93	1.62						
..... REACTION 31										
DEPI+PI+PI-PIO		11.307	4.149	5.000	.0800		.0100		COLLER.PR161,1387-67	
	THRESHOLD	5.93	1.29	2.02						
..... REACTION 32										
DERH+		41.394	20.183	21.100	0.0000	MICROB	ERROR NOT GIVEN		ALLABY PL29B,198-69	$
	THRESHOLD	6.95	1.83	2.60						
..... REACTION 33										
P(P/PI+)2PI+2PI-ZO		20.608	9.106	10.000	.7600		.0500		HOLMGREN NC57A,20-68	
	THRESHOLD	7.32	2.02	2.81						

FOOTNOTES

S=STATISTICAL ERROR ONLY
F=CROSS SECTION OBTAINED FROM PI+DE=PP, USING DETAILED BALANCING
$=DATA POINT NOT USED IN FITTING OR PLOTTING

PP

		S	K.ENERGY	PLAB	CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 34										
PPPIO		4.307	.418	.980	.1000		.1500		FOCARDI NC39,405-65	
		4.385	.460	1.037	.4000		.2000		MESC.NCS3,119-56	
		4.572	.560	1.168	1.2000		.3000		MESCHER.JETP4,60-57	
		4.572	.560	1.168	.9100		.1500		BALCONI NC26,1376-62	
		4.742	.650	1.282	3.0000		.3000		GUZAVIN JETP19,847-64	
		4.760	.660	1.294	3.4000		.4000		MESCHER.JETP4,60-57	
		4.901	.735	1.386	3.4600		.2500		CENCE PR131,2713-63	
		5.339	.969	1.660	3.7000		.3000		BUGG PR133B,1017-64	
		6.301	1.481	2.230	3.9800		.2700	.2600	EISNER PR138B,670-65	
		7.314	2.021	2.807	3.8500		.2200		FICKI. PR125,2082-62	
		8.869	2.850	3.670	2.9000		.3100		SMITH PR123,2160-61	
		9.470	3.170	4.000	2.6000		.3000		COLETTI NC49A,479-67	
		12.231	4.641	5.500	2.7700		.1100		ALEXAND.PR154,1284-67	
		13.286	5.204	6.070	2.8000		.3000		TAN PL28B,195-68	
		14.270	5.728	6.600	2.5400		.1600		PR3,1063-71	
		14.865	6.045	6.920	2.0000		.2000		ALEXAND.PR173,1322-68	
		17.062	7.216	8.100	1.7500		.2000		GINESTET,NPB13,283-69	
		20.608	9.106	10.000	1.4000		.3000		ALMEIDA PR174,1638-68	
		37.458	18.085	19.000	1.1000		.2000		BOGGILD,NPB27,285-71	
	THRESHOLD	4.05	.28	.78					19 DATA POINTS LISTED	
					FIT OF SIGMA AGAINST PLAB GEV/C					
					9 DATA POINTS USED ABOVE 3.0 GEV/C , PROB. = .79					
					K = 7.58 +- 2.79 N = -.62 +- .21					
..... REACTION 35										
PPPIOPIO		6.301	1.481	2.230	.4100		.0800		EISNER PR138B,670-65	
		7.320	2.024	2.810	.9200		.1000		PICK.PR125,2091-62	
	THRESHOLD	4.61	.58	1.19					2 DATA POINTS LISTED	
..... REACTION 36										
PPZO		9.452	3.161	3.990	1.2000		.3000		BOCINI NC58A,475-68	
		14.865	6.045	6.920	2.1000		.2000		ALEXAND.PR173,1322-68	
		17.062	7.216	8.100	1.6000		.4000		GINESTET,NPB13,283-69	
		20.608	9.106	10.000	1.5000		ERROR NOT GIVEN		ALMEIDA PR174,1638-68	C
		37.458	18.085	19.000	1.0000		ERROR NOT GIVEN		SCANDINAVIA LUND69	C
	THRESHOLD	4.61	.58	1.19					5 DATA POINTS LISTED	
..... REACTION 37										
P(PPIO/NPI+)		8.869	2.850	3.670	3.9400		.4800		SMITH PR123,2160-61	
	THRESHOLD	4.04	.28	.77						
..... REACTION 38										
PPPI+PI-		5.339	.969	1.660	.0100		.0100		SMITH PR123,2160-61	
		5.611	1.114	1.825	.3000		.0300		BRUNT,PR187,1856-69	
		6.094	1.371	2.110	.6600		.1000		BRUNT,PR187,1856-69	
		6.301	1.481	2.230	1.2200		.1400		EISNER PR138B,670-65	
		7.302	2.015	2.800	2.5100		.1400		BACCN,PR2,463-70	
		7.320	2.024	2.810	2.5100		.1400		PICK.PR125,2091-62	
		8.869	2.850	3.670	2.6700		.1300		HART PR126,747-62	
		9.452	3.161	3.990	2.9500		.1500		BOCINI NC58A,475-68	
		11.307	4.149	5.000	2.9600		.1200		COLLER. PR161,1387-67	
		12.231	4.641	5.500	2.8400		.0800		ALEXAND.PR154,1284-67	
		13.157	5.135	6.000	2.8000		.1000		CASO NC55A,66-68	
		13.231	5.174	6.040	3.2000		.3000		CHINCH.PR171,1421-68	
		14.270	5.728	6.600	2.6000		.3000		GELLERT PRL17,884-66	
		14.270	5.728	6.600	2.7000		.1600		COLTON,PR3,1063-71	
		14.865	6.045	6.920	3.0000		.3000		YEKUTIE. NPB18,301-70	
		17.081	7.226	8.110	2.4600		.1000		KAYAS NPB5,169-68	
		20.608	9.106	10.000	2.4000		.2000		ALMEIDA PR174,1638-68	
		31.836	15.089	16.000	2.4400		.1800	.0800	RUSHBRKE.PRL22,248-68	
		37.458	18.085	19.000	1.6000		.2000		BOGGILD,NPB27,285-71	
		48.331	23.879	24.800	1.5000		.2000		EHRLICH PRL21,1839-68	
		55.270	27.577	28.500	1.1000		.1000		CONNOLLY STONYBRK.69	
	THRESHOLD	4.64	.60	1.22					21 DATA POINTS LISTED	
					FIT OF SIGMA AGAINST PLAB GEV/C					
					13 DATA POINTS USED ABOVE 4.0 GEV/C , PROB. = .54					
					K = 5.51 +- .77 N = -.38 +- .07					
..... REACTION 39										
PPPI+PI- (NON RESONANT)		12.231	4.641	5.500	0.0000	MICROB	ERROR NOT GIVEN		ALEXAND.PR154,1284-67	$
		13.157	5.135	6.000	0.0000	MICROB	ERROR NOT GIVEN		CASO NC55A,66-68	$
		31.836	15.089	16.000	1.6400		.1300	.0600	RUSHBRKE.PRL22,248-68	
	THRESHOLD	4.64	.60	1.22					3 DATA POINTS LISTED	
..... REACTION 40										
PPPI+PI-PIO		6.301	1.481	2.230	.2200		.2200		EISNER PR138B,670-65	
		7.320	2.024	2.810	.2170		.0290		PICK.PR125,2091-62	
		8.869	2.850	3.670	.7400		.0700		HART PR126,747-62	
		9.452	3.161	3.990	1.1000		.1000		BOCINI NC58A,475-68	
		11.307	4.149	5.000	1.7600		.0700		COLLER. PR161,1387-67	
		12.231	4.641	5.500	1.8400		.0700		ALEXAND.PR154,1284-67	
		13.157	5.135	6.000	2.2000		.1000		CASO NC55A,66-68	
		13.231	5.174	6.040	2.4000		.4000		CHINCH.PR171,1421-68	
		14.270	5.728	6.600	2.1500		.1300		COLTON,PR1,1979-70	
		14.865	6.045	6.920	2.6000		.3000		YEKUTIE. NPB18,301-70	
		20.608	9.106	10.000	2.3000		.2000		ALMEIDA PR174,1638-68	
		37.458	18.085	19.000	1.9000		.3000		BOGGILD,NPB27,285-71	
	THRESHOLD	5.25	.92	1.60					12 DATA POINTS LISTED	

FOOTNOTES

O=ORDER OF MAGNITUDE
$=DATA POINT NOT USED IN FITTING OR PLOTTING

PP

	S	K.ENERGY	PLAB		CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 41 ..... PPPI+PI-PIO(NON RESONANT)	12.231	4.641	5.500		.1600		.0200		ALEXAND.PR154,1284-67	
	13.157	5.135	6.000		0.0000	MICROB	100.0000		CASC NC55A,66-68	$
THRESHOLD	5.24	.92	1.60						2 DATA POINTS LISTED	
..... REACTION 42 ..... PPPI+PI-PIOPIO	7.314	2.021	2.807	U	5.0000	MICROB			PICKLP PR125,2091-62	U
THRESHOLD	5.88	1.26	1.99							
..... REACTION 43 ..... PPPI+PI-ZO	14.865	6.045	6.920		.5000		.1000		YEKUTIE. NPB18,301-70	
	20.608	9.106	10.000		.7000		ERROR NOT GIVEN		ALMEIDA PR174,1638-68	O
THRESHOLD	5.88	1.26	1.99						2 DATA POINTS LISTED	
..... REACTION 44 ..... PPPI+PI+PI-PI-	7.320	2.024	2.810	U	.7000	MICROB			PICKLP PR125,2091-62	U
	12.231	4.641	5.500		.2270		.0230		ALEXAND.PR154,1284-67	
	14.865	6.045	6.920		.4100		.0300		DANIELI,NPB27,157-71	
	20.608	9.106	10.000		.4600		.0400		HOLMGREN NC57A,20-68	
	37.458	18.085	19.000		.4000		.1000		BOGGILD,NPB27,285-71	
	55.270	27.577	28.500		.3800		ERROR NOT GIVEN		KENYON NP B13,255-69	
THRESHOLD	5.93	1.28	2.01						6 DATA POINTS LISTED	
..... REACTION 45 ..... PPPI+PI+PI-PI-PIO	12.231	4.641	5.500		.0880		.0140		ALEXAND.PR154,1284-67	
	14.865	6.045	6.920		.3000		.0300		DANIELI,NPB27,157-71	
	20.608	9.106	10.000		.6900		.0500		HOLMGREN NC57A,20-68	
	55.270	27.577	28.500		1.4800		ERROR NOT GIVEN		CONNOL. BAPS12,488-67	
THRESHOLD	6.59	1.64	2.40						4 DATA POINTS LISTED	
..... REACTION 46 ..... PPPI+PI+PI-PI-ZO	14.865	6.045	6.920		.0500		.0100		DANIELI,NPB27,157-71	
THRESHOLD	7.32	2.02	2.81							
..... REACTION 47 ..... PP3PI+3PI-	55.270	27.577	28.500		.1150		ERROR NOT GIVEN		KENYON NP B13,255-69	
THRESHOLD	7.37	2.05	2.84							
..... REACTION 48 ..... PP3PI+3PI-PIO	55.270	27.577	28.500		.9300		ERROR NOT GIVEN		CONNOL. BAPS12,488-67	
THRESHOLD	8.12	2.45	3.25							
..... REACTION 49 ..... PP4PI+4PI-	55.270	27.577	28.500		.0200		ERROR NOT GIVEN		KENYON NP B13,255-69	
THRESHOLD	8.96	2.90	3.72							
..... REACTION 50 ..... PP5PI+5PI-	55.270	27.577	28.500		2.0000	MICROB	ERROR NOT GIVEN		KENYON NP B13,255-69	
THRESHOLD	10.71	3.83	4.67							
..... REACTION 51 ..... PPK+KOPI-	14.865	6.045	6.920		.0160		.0064		ALEXAND. NC53A,455-66	
	16.633	6.987	7.870		9.8000	MICROB	4.4000		FIREB.PR172,1354-68	S
THRESHOLD	9.05	2.94	3.77						2 DATA POINTS LISTED	
..... REACTION 52 ..... PPK-KOPI+	16.633	6.987	7.870		.0138		.0052		FIREB.PR172,1354-68	S
THRESHOLD	9.05	2.94	3.77							
..... REACTION 53 ..... PPK-KOPI+PIO	14.865	6.045	6.920		2.6000	MICROB	2.5000		ALEXAND. NC53A,455-68	
	16.633	6.987	7.870		5.9000	MICROB	3.4000		FIREB.PR172,1354-68	S
THRESHOLD	9.88	3.39	4.22						2 DATA POINTS LISTED	
..... REACTION 54 ..... PPKOKO	11.215	4.100	4.950		3.0000	MICROB	1.0000		BIERMAN PR147,922-66	
	12.231	4.641	5.500		6.4000	MICROB	4.0000		ALEXAND.PR154,1284-67	
	13.157	5.135	6.000		5.0000	MICROB	3.0000		CASC NC55A,66-68	
	14.865	6.045	6.920		8.2000	MICROB	3.6000		ALEXAND. NC53A,455-68	
	16.633	6.987	7.870		.0104		.0033		FIREB.PR172,1354-68	S
	20.608	9.106	10.000		.0330		.0160		HOLMGREN NC51A,305-67	
THRESHOLD	8.25	2.52	3.33						6 DATA POINTS LISTED	
..... REACTION 55 ..... PPKOKOPIO	20.608	9.106	10.000		.0210		.0110		HOLMGREN NC51A,305-67	
THRESHOLD	9.04	2.94	3.77							
..... REACTION 56 ..... PPKOKOPI+PI-	16.633	6.987	7.870		6.3000	MICROB	2.8000		FIREB.PR172,1354-68	S
	20.608	9.106	10.000		9.0000	MICROB	9.0000		HOLMGREN NC51A,305-67	
THRESHOLD	9.93	3.42	4.25						2 DATA POINTS LISTED	
..... REACTION 57 ..... PPKOKOPI+PI-PIO	20.608	9.106	10.000		5.0000	MICROB	5.0000		HOLMGREN NC51A,305-67	
THRESHOLD	10.80	3.88	4.72							

FOOTNOTES

$=DATA POINT NOT USED IN FITTING OR PLOTTING
U=UPPER LIMIT
O=ORDER OF MAGNITUDE
S=STATISTICAL ERROR ONLY

PP

	S	K.ENERGY	PLAB		CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 58										
PPKSKS	12.046	4.543	5.400		1.5000	MICROB	.9000		CUNNCODI,UCLA,1033-68	
	14.270	5.728	6.600		3.2000	MICROB	.9000		CUNNCODI,UCLA,1033-68	
THRESHOLD	8.25	2.52	3.33						2 DATA POINTS LISTED	
..... REACTION 59										
PPKSKL	12.046	4.543	5.400		3.0000	MICROB	ERROR NOT GIVEN		CUNNCODI,UCLA,1033-68	C
	14.270	5.728	6.600		5.0000	MICROB	ERROR NOT GIVEN		CUNNCODI,UCLA,1033-68	C
THRESHOLD	8.25	2.52	3.33						2 DATA POINTS LISTED	
..... REACTION 60										
PPET	13.157	5.135	6.000		.0700		.0500		CASC NC55A,66-68	
	20.608	9.106	10.000		.1600		.0700		ALMEIDA PR174,1638-68	
THRESHOLD	5.89	1.26	1.99						2 DATA POINTS LISTED	
..... REACTION 61										
PPET=PPPI+PI-	7.320	2.024	2.810		5.0000	MICROB	5.0000		PICKUP PRL8,329-62	
THRESHOLD	5.89	1.26	1.99							
..... REACTION 62										
PPET=PPPI+P+-PI0	7.320	2.024	2.810		.0570		.0100		PICKUP PRL8,329-62	
	9.452	3.161	3.990		.0400		.0200		BOCINI NC58A,475-68	
	11.215	4.100	4.950		.0280		.0090		COLLERA,PR161,1387-67	
	12.231	4.641	5.500		.0200		.0100		ALEXAND.PR154,1284-67	
	13.157	5.135	6.000		.0280		.0050		KINSEY,UCRL,17707-68	
	14.270	5.728	6.600		.0290		.0080		COLTON,PR1,1979-70	
	14.865	6.045	6.920		.0400		.0100		YEKUTIE. NPB18,301-70	
	20.608	9.106	10.000		.0360		.0150		ALMEIDA PR174,1638-68	
THRESHOLD	5.89	1.26	1.99						8 DATA POINTS LISTED	
..... REACTION 63										
PPET=PPZ0	7.320	2.024	2.810		.1400		.0550		PICKUP PRL8,329-62	
THRESHOLD	5.89	1.26	1.99							
..... REACTION 64										
PPPH+PI-	12.231	4.641	5.500		.0500		.0500		ALEXAND.PR154,1284-67	
THRESHOLD	7.73	2.23	3.04							
..... REACTION 65										
PPRH=PI+	12.231	4.641	5.500		.0700		.0700		ALEXAND.PR154,1284-67	
THRESHOLD	7.73	2.23	3.04							
..... REACTION 66										
PPRHO	12.231	4.641	5.500		.0700		.0500		ALEXAND.PR154,1284-67	
	14.270	5.728	6.600		.0970		.0200		COLTON,PR3,1063-71	
	14.865	6.045	6.920		.1300		.0400		YEKUTIE. NPB18,301-70	
	17.041	7.226	8.110	U	.1000				KAYAS NPB5,169-68	L
THRESHOLD	6.98	1.84	2.62						4 DATA POINTS LISTED	
..... REACTION 67										
PPRHOPI0	12.231	4.641	5.500		0.0000	MICROB	ERROR NOT GIVEN		ALEXAND.PR154,1284-67	$
THRESHOLD	7.71	2.23	3.03							
..... REACTION 68										
PPOM	13.157	5.135	6.000		.1800		.0500		CASC NC55A,66-68	
	20.608	9.106	10.000		.1600		.0300		ALMEIDA PR174,1638-68	
THRESHOLD	7.08	1.90	2.67						2 DATA POINTS LISTED	
..... REACTION 69										
PPOM=PPPI+PI-PI0	9.452	3.161	3.990		.0800		.0300		BOCINI NC58A,475-68	
	11.215	4.100	4.950		.1520		.0180		COLLERA,PR161,1387-67	
	12.231	4.641	5.500		.1100		.0200		ALEXAND.PR154,1284-67	
	13.157	5.135	6.000		.1800		.0500		KINSEY,UCRL,17707-68	
	14.270	5.728	6.600		.1800		.0210		COLTON,PR1,1979-70	
	14.865	6.045	6.920		.1400		.0400		YEKUTIE. NPB18,301-70	
	20.608	9.106	10.000		.1450		.0300		ALMEIDA PR174,1638-68	
	37.458	18.085	19.000		.0800		.0200		SCANDINAVIA LUND69	
THRESHOLD	7.08	1.90	2.67						8 DATA POINTS LISTED	

FIT OF SIGMA AGAINST PLAB GEV/C

7 DATA POINTS USED ABOVE 4.0 GEV/C , PROB. = .82

K = .28 +- .20 N = -.34 +- .37

..... REACTION 70										
PPOMPI+PI-	14.865	6.045	6.920		.0900		.0300		DANIELI,NPB27,157-71	
THRESHOLD	8.64	2.73	3.54							
..... REACTION 7_										
PPXO	13.157	5.135	6.000	L	.0800				CASC NC55A,66-68	L
THRESHOLD	8.03	2.40	3.21							
..... REACTION 72										
PPF	20.608	9.106	10.000		.1000		.0400		ALMEIDA PR174,1638-68	
THRESHOLD	9.84	3.37	4.20							

FOOTNOTES

O=ORDER OF MAGNITUDE
U=UPPER LIMIT
$=DATA POINT NOT USED IN FITTING OR PLOTTING

PP

		S	K.ENERGY	PLAB	CROSS SECTION	ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 73									
PPF=PPPI+PI-		14.270	5.728	6.600	.0310	.0140		CCLTCN,PR3,1063-71	
		20.608	9.106	10.000	.0640	.0270		ALMEIDA PR174,1638-68	
	THRESHOLD	9.84	3.37	4.20				2 DATA POINTS LISTED	
..... REACTION 74									
PNPI+		4.281	.405	.961	.6300	.0600		MCILWAIN PR127,239-62	
		4.307	.418	.980	.7200	.1300		FOCARDI NC29,405-65	
		4.385	.460	1.037	4.0000	ERROR NOT GIVEN		MESC.NCS3,119-56	
		4.438	.489	1.075	2.6000	2.0000		DZHELE,DDKY1C4,380-55	
		4.459	.500	1.090	4.1000	2.0000		DZHELE,DDKY1C4,380-55	
		4.534	.540	1.142	5.5000	2.1000		DZHELE,DDKY1C4,380-55	
		4.572	.560	1.168	5.2100	.4400		BALDONI NC26,1376-62	
		4.572	.560	1.168	5.0000	1.0000		MESCHER.JETP4,60-57	
		4.591	.570	1.181	10.9000	1.1000		NEGANOV JETP5,1033-57	1
		4.610	.580	1.194	7.9000	2.1000		DZHELE,DDKY1C4,380-55	
		4.647	.600	1.219	8.4000	2.1000		DZHELE,DDKY1C4,380-55	
		4.685	.620	1.244	9.9000	2.2000		DZHELE,DDKY1C4,380-55	
		4.722	.640	1.269	10.7000	2.2000		DZHELE,DDKY1C4,380-55	
		4.742	.650	1.282	10.8000	.5000		GUZAVIN JETP19,847-64	
		4.760	.660	1.294	10.9000	1.1000		NEGANOV JETP5,1033-57	
		5.339	.969	1.660	18.3000	.7000		BUGG PR133B,1017-64	
		6.301	1.481	2.230	17.2200	.6600	.5700	EISNER PR138B,670-65	
		7.314	2.021	2.807	16.0600	.4400		FICKI. PR125,2082-62	
		8.869	2.850	3.670	11.4400	.6500		SMITH PR123,2160-61	
		9.470	3.170	4.000	9.7000	.4000		CCLETTI NC49A,479-67	
		12.231	4.641	5.500	8.3000	.1900		ALEXANC.PR154,1284-67	
		13.286	5.204	6.070	6.7000	.5000		TAN PL28B,195-68	
		14.270	5.728	6.600	5.7300	.3500		MA,PRL23,342-69	
		14.865	6.045	6.920	5.2000	.4000		ALEXANC.PR173,1322-68	
		17.062	7.216	8.100	4.5000	.4000		GINESTET,NPB13,283-69	
		20.627	9.116	10.010	4.1000	.4000		DEPAE NC53A,232-68	
		37.458	18.085	19.000	1.9000	.2000		BOGGILD,NPB27,285-71	
		55.270	27.577	28.500	1.5000	.1000		CONNOLLY STONYBRK.69	
	THRESHOLD	4.07	.29	.80				28 DATA POINTS LISTED	
					FIT OF SIGMA AGAINST PLAB GEV/C				
					10 DATA POINTS USED ABOVE 3.0 GEV/C , PROB. = .77				
					K = 42.41 +- 5.30 N = -1.01 +- .07				
..... REACTION 75									
PNPI+PIO		6.301	1.481	2.230	2.3700	.2000		EISNER PR138B,670-65	
		7.320	2.024	2.810	4.0700	.2100		PICK.PR125,2091-62	
		9.452	3.161	3.990	3.8000	.3000		BODINI NC58A,475-68	
	THRESHOLD	4.63	.59	1.21				3 DATA POINTS LISTED	
..... REACTION 76									
PNPI+PIOPIO		9.452	3.161	3.990	1.8000	.2000		BODINI NC58A,475-68	
	THRESHOLD	5.23	.91	1.59					
..... REACTION 77									
PNPI+PI+PI-		7.320	2.024	2.810	.4050	.0400		PICK.PR125,2091-62	
		8.869	2.850	3.670	1.1500	.0900		HART PR126,747-62	
		9.452	3.161	3.990	1.6000	.1000		BODINI NC58A,475-68	
		11.307	4.149	5.000	2.1900	.0900		CCLLER. PR161,1387-67	
		12.231	4.641	5.500	2.8500	.0800		ALEXANC.PR154,1284-67	
		13.157	5.135	6.000	2.3000	.2000		CASC NC55A,66-68	
		13.231	5.174	6.040	3.1000	.5000		CHINCW.PR171,1421-68	
		14.270	5.728	6.600	2.4700	.1500		CCLTCN,PRL21,1548-68	
		14.865	6.045	6.920	2.6000	.3000		YEKUTIE. NPB18,301-70	
		20.608	9.106	10.000	2.4000	.2000		ALMEIDA PR174,1638-68	
		37.458	18.085	19.000	1.9000	.3000		BOGGILD,NPB27,285-71	
		55.270	27.577	28.500	1.3000	.2000		CONNOLLY STONYBRK.69	
	THRESHOLD	5.27	.93	1.62				12 DATA POINTS LISTED	
					FIT OF SIGMA AGAINST PLAB GEV/C				
					7 DATA POINTS USED ABOVE 6.0 GEV/C , PROB. = .91				
					K = 4.76 +- 1.78 N = -.34 +- .17				
..... REACTION 78									
PNPI+PI+PI- (NON RESONANT)		12.231	4.641	5.500	.2400	.0300		ALEXANC.PR154,1284-67	
		13.157	5.135	6.000	.3500	.1000		CASC NC55A,66-68	
	THRESHOLD	5.27	.93	1.62				2 DATA POINTS LISTED	
..... REACTION 79									
PN3PI+2PI-		12.231	4.641	5.500	.0980	.0150		ALEXANC.PR154,1284-67	
		14.865	6.045	6.920	.2000	.0200		DANIELI,NPB27,157-71	
		20.608	9.106	10.000	.5400	.0400		HOLMGREN NC57A,20-68	
		54.332	27.077	28.000	.9100	ERROR NOT GIVEN		CONNOL. BAPS12,488-67	
	THRESHOLD	6.63	1.66	2.42				4 DATA POINTS LISTED	
..... REACTION 80									
PN4PI+3PI-		54.332	27.077	28.000	.5400	ERROR NOT GIVEN		CONNOL. BAPS12,488-67	
	THRESHOLD	8.15	2.47	3.27					
..... REACTION 81									
PNK+KO		11.215	4.100	4.950	.0120	.0030		BIERMAN PR147,922-66	
		12.046	4.543	5.400	.0100	ERROR NOT GIVEN		DUNNCCDI,UCLA,1033-68	C
		12.231	4.641	5.500	.0194	.0104		ALEXANC.PR154,1284-67	
		13.157	5.135	6.000	.0130	.0070		CASC NC55A,66-68	
		14.270	5.728	6.600	.0200	ERROR NOT GIVEN		DUNNCCDI,UCLA,1033-68	C
		14.865	6.045	6.920	.0283	.0085		ALEXANC. NC53A,455-68	
		16.633	6.987	7.870	.0250	.0067		FIREB.PR172,1354-68	S
	THRESHOLD	8.23	2.51	3.32				7 DATA POINTS LISTED	

FOOTNOTES

1=AVERAGE VALUE OVER A BAND OF MOMENTA
O=ORDER OF MAGNITUDE
S=STATISTICAL ERROR ONLY

PP

	S	K.ENERGY	PLAB	CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 82									
PNK+KOPI+PI-	14.865	6.045	6.920	5.4000	MICROB	3.8000		ALEXAND. NC53A,455-68	
	16.633	6.987	7.870	7.8000	MICROB	3.9000		FIREB.PR172,1354-68	S
THRESHOLD	9.91	3.41	4.24					2 DATA POINTS LISTED	
..... REACTION 83									
PNK-KOPI+PI+	16.633	6.987	7.870	3.9000	MICROB	2.8000		FIREB.PR172,1354-68	S
THRESHOLD	9.91	3.41	4.24						
..... REACTION 84									
PNKOKOPI+	14.865	6.045	6.920	.0157		.0108		ALEXAND. NC53A,455-68	
	16.633	6.987	7.870	.0248		.0124		FIREB.PR172,1354-68	S
	20.608	9.106	10.000	.0530		.0200		HOLMGREN NC51A,305-67	
THRESHOLD	9.05	2.95	3.77					3 DATA POINTS LISTED	
..... REACTION 85									
PNKOKOPI+PI+PI-	20.608	9.106	10.000	.0360		.0180		HOLMGREN NC51A,305-67	
THRESHOLD	10.84	3.90	4.75						
..... REACTION 86									
PPI+ZO	9.452	3.161	3.990	5.6000		.8000		BODINI NC58A,475-68	
	14.865	6.045	6.920	6.6000		.5000		ALEXAND.PR173,1322-68	
	17.062	7.216	8.100	6.5000		.5000		GINESTET,NPB13,283-69	
	20.608	9.106	10.000	5.3000		ERROR NOT GIVEN		ALMEIDA PR174,1638-68	C
THRESHOLD	4.63	.59	1.21					4 DATA POINTS LISTED	
..... REACTION 87									
PPI+PI+PI-ZO	14.865	6.045	6.920	2.1000		.6000		YEKUTIE. NPB18,301-70	
	20.608	9.106	10.000	4.1000		ERROR NOT GIVEN		ALMEIDA PR174,1638-68	C
THRESHOLD	5.91	1.27	2.00					2 DATA POINTS LISTED	
..... REACTION 88									
P3PI+2PI-ZO	14.865	6.045	6.920	.1300		.0200		DANIELI,NPB27,157-71	
THRESHOLD	7.35	2.04	2.83						
..... REACTION 89									
N***1236PPI+2PI-	14.865	6.045	6.920	.4000		.1000		DANIELI,NPB27,157-71	
THRESHOLD	6.72	1.71	2.47						
..... REACTION 90									
N***1236PPI+2PI-PIO	14.865	6.045	6.920	.2300		.0900		DANIELI,NPB27,157-71	
THRESHOLD	7.44	2.09	2.88						
..... REACTION 91									
N***1236PPI-	12.231	4.641	5.500	.2800		.0400		ALEXAND.PR154,1284-67	
	13.157	5.135	6.000	1.1800		.2000		CASC NC55A,66-68	
	14.270	5.728	6.600	2.1600		.1800		COLTON,PRL21,1548-68	
	14.865	6.045	6.920	2.3000		.3000		YEKUTIE. NPB18,301-70	
	17.062	7.216	8.100	2.2200		.1500		KAYAS NPB5,169-68	
	20.608	9.106	10.000	1.2500		.1400		ALMEIDA PR174,1638-68	
	31.836	15.089	16.000	.8000		.0700	.0400	RUSHBRKE.PRL22,248-68	
THRESHOLD	5.35	.98	1.67					7 DATA POINTS LISTED	
..... REACTION 92									
N***1236PPI-PIO	9.452	3.161	3.990	.2800		.1600		BODINI NC58A,475-68	
	12.231	4.641	5.500	.2000		.0200		ALEXAND.PR154,1284-67	
	13.157	5.135	6.000	1.2000		.3000		CASC NC55A,66-68	
	14.270	5.728	6.600	1.2900		.1200		COLTON,PRL21,1548-68	
	14.865	6.045	6.920	1.5600		.1600		YEKUTIE. NPB18,301-70	
	20.608	9.106	10.000	1.0200		.1300		ALMEIDA PR174,1638-68	
THRESHOLD	6.00	1.32	2.05					6 DATA POINTS LISTED	
..... REACTION 93									
N***1236PRH-	37.458	18.085	19.000	.1220		.0300		BOGGILO,NPB20,441-70	
THRESHOLD	8.64	2.73	3.54						
..... REACTION 94									
N***1236PUMPI-	14.865	6.045	6.920	.0400		.0300		DANIELI,NPB27,157-71	
THRESHOLD	9.59	3.23	4.07						
..... REACTION 95									
N***1236N	12.231	4.641	5.500	3.2500		.1600		ALEXAND.PR154,1284-67	
	14.865	6.045	6.920	1.9000		.3000		ALEXAND.PR173,1322-68	
	17.062	7.216	8.100	1.3500		.3000		GINESTET,NPB13,283-69	
	20.608	9.106	10.000	1.1800		.1400		ALMEIDA PR174,1638-68	
	26.219	12.096	13.000	.5500		.0990		MA,PRL24,1031-70	
	35.771	17.186	18.100	.3010		.0520		MA,PRL24,1031-70	
	37.458	18.085	19.000	.2700		.0500		BOGGILO PL30B,369-69	
	41.394	20.183	21.100	.2170		.0530		MA,PRL24,1031-70	

FOOTNOTES

S=STATISTICAL ERROR ONLY
O=ORDER OF MAGNITUDE

PP

	S	K.ENERGY	PLAB	CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 95 ..... N*++1236N (CONTINUATION)	47.206	23.280	24.200	.2050		.0470		MA,PRL24,1031-70	
	55.270	27.577	28.500	.1150		.0150		ELLIS PRL21,697-68	
THRESHOLD	4.73	.65	1.28					10 DATA POINTS LISTED	
				FIT OF SIGMA AGAINST PLAB GEV/C					
				10 DATA POINTS USED ABOVE 3.0 GEV/C , PROB. =1.00					
				K = 97.35 +- 27.38 N = -1.99 +- .13					
..... REACTION 96 ..... N*++1236NPI+PI-	9.452	3.161	3.990	.0300	U			BODINI NC58A,475-68	U
	12.231	4.641	5.500	1.0200		.1500		ALEXAND.PR154,1284-67	
	13.157	5.135	6.000	1.1000		.3000		CASO NC55A,66-68	
	14.270	5.728	6.600	1.2400		.1200		COLTON,PRL21,1548-68	
	14.865	6.045	6.920	1.5600		.1500		YEKUTIE. NPB18,301-70	
	20.608	9.106	10.000	1.1100		.1400		ALMEIDA PR174,1638-68	
THRESHOLD	6.03	1.33	2.07					6 DATA POINTS LISTED	
..... REACTION 97 ..... N*++1236N2PI+2PI-	14.865	6.045	6.920	.2000		.0600		DANIELI,NPB27,157-71	
THRESHOLD	7.47	2.11	2.90						
..... REACTION 98 ..... N*++1236NRHO	37.458	18.085	19.000	.1940		.0350		BOGGILD,NPB20,441-70	
THRESHOLD	8.65	2.73	3.55						
..... REACTION 99 ..... N*++1236N*+1236PI-=PP3PI	12.231	4.641	5.500	.2600		.0500		ALEXAND.PR154,1284-67	
	13.157	5.135	6.000	0.0000	MICROB	100.0000		CASO NC55A,66-68	$
THRESHOLD	6.82	1.76	2.53					2 DATA POINTS LISTED	
..... REACTION 100 ..... N*++1236N*-1236PI+	12.231	4.641	5.500	.5900		.1600		ALEXAND.PR154,1284-67	
	20.608	9.106	10.000	.5700		.1500		ALMEIDA PR174,1638-68	
THRESHOLD	6.82	1.76	2.53					2 DATA POINTS LISTED	
..... REACTION 101 ..... N*++1236N*-1236PI+=PN3PI	9.452	3.161	3.990	.6400		.1600		BODINI NC58A,475-68	
	13.157	5.135	6.000	0.0000	MICROB	300.0000		CASO NC55A,66-68	$
THRESHOLD	6.82	1.76	2.53					2 DATA POINTS LISTED	
..... REACTION 102 ..... N*++1236N*-12362PI+PI-	14.865	6.045	6.920	.0500		.0200		DANIELI,NPB27,157-71	
THRESHOLD	8.36	2.58	3.39						
..... REACTION 103 ..... N*++1236N*01236=PPPI+PI-	12.231	4.641	5.500	.2500		.0400		ALEXAND.PR154,1284-67	
	13.157	5.135	6.000	.7200		.1500		CASO NC55A,66-68	
	14.865	6.045	6.920	.4200		.1000		YEKUTIE. NPB18,301-70	
	17.062	7.216	8.100	.2200		.0300		KAYAS NPB5,169-68	
THRESHOLD	6.11	1.38	2.12					4 DATA POINTS LISTED	
..... REACTION 104 ..... N*++1236N*01236P10=PP3PI	12.231	4.641	5.500	.2600		.0600		ALEXAND.PR154,1284-67	
	13.157	5.135	6.000	0.0000	MICROB	100.0000		CASO NC55A,66-68	$
THRESHOLD	6.80	1.75	2.51					2 DATA POINTS LISTED	
..... REACTION 105 ..... N*++1236N01500=PPPI+PI-	14.865	6.045	6.920	.2300		.0700		YEKUTIE. NPB18,301-70	
THRESHOLD	7.49	2.11	2.90						
..... REACTION 106 ..... N*++1236N01680=PPPI+PI-	14.865	6.045	6.920	.2300		.0700		YEKUTIE. NPB18,301-70	
THRESHOLD	8.50	2.65	3.47						
..... REACTION 107 ..... N*++1236LKO	13.157	5.135	6.000	.0230		.0030		KLEIN,PR1,3019-70	
THRESHOLD	8.09	2.44	3.24						
..... REACTION 108 ..... N*++1236Z0	9.452	3.161	3.990	2.1000		.4000		BODINI NC58A,475-68	
THRESHOLD	5.34	.97	1.66						
..... REACTION 109 ..... N*+1236P	7.391	2.062	2.850	3.8000		.6000		BLAIR,NC63A,529-69	
	10.478	3.707	4.550	1.5000		.2000		BLAIR,NC63A,529-69	
	12.231	4.641	5.500	1.4700		.0900		ALEXAND.PR154,1284-67	*
	13.157	5.135	6.000	.3760		.0760		ANDERSON PRL16,855-66	
	13.268	5.194	6.060	.6000		.1000		BLAIR,NC63A,529-69	
	16.652	6.997	7.880	.4100		.0600		BLAIR,NC63A,529-69	
	20.608	9.106	10.000	.1840		.0500		ANDERSON PRL16,855-66	
	20.627	9.116	10.010	.3900		.0500		CERNE NC53A,232-68	
	29.963	14.091	15.000	.1800		.0600		ABRAMS,PRL25,699-70	
	29.963	14.091	15.000	.1420		.0100		ANDERSON PRL16,855-66	
THRESHOLD	4.73	.64	1.27					10 DATA POINTS LISTED	
				FIT OF SIGMA AGAINST PLAB GEV/C					
				10 DATA POINTS USED ABOVE 2.0 GEV/C , PROB. = .07					
				K = 39.94 +- 18.69 N = -2.08 +- .26					

FOOTNOTES

U=UPPER LIMIT
$=DATA POINT NOT USED IN FITTING OR PLOTTING
*=CROSS SECTION DEDUCED BY EDITORS FROM PUBLISHED RESULTS

PP

	S	K.ENERGY	PLAB	CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 110									
N*+1236P=PPPIO	12.231	4.641	5.500	.7200		.0500		ALEXAND.PR154,1284-67	
	13.286	5.204	6.070	.5200		.1300		TAN PL28B,195-68	
	17.062	7.216	8.100	.1500		.0700		GINESTET,NPB13,283-69	
THRESHOLD	4.73	.64	1.27					3 DATA POINTS LISTED	
..... REACTION 111									
N*+1236P=PNPI+	12.231	4.641	5.500	.7500		.0800		ALEXAND.PR154,1284-67	
	13.286	5.204	6.070	.2800		.0800		TAN PL28B,195-68	
	17.062	7.216	8.100	.4000		.1000		GINESTET,NPB13,283-69	
THRESHOLD	4.73	.64	1.27					3 DATA POINTS LISTED	
..... REACTION 112									
N*+1236PPI+PI-=PPPI+PI-PIC	9.452	3.161	3.990	.1200		.0900		BOCINI NC58A,475-68	
	12.231	4.641	5.500	.3000		.0300		ALEXAND.PR154,1284-67	
	13.157	5.135	6.000	.2500		.1000		CASO NC55A,66-68	
	20.608	9.106	10.000	.4200		.1300		ALMEIDA PR174,1638-68	
THRESHOLD	6.02	1.33	2.07					4 DATA POINTS LISTED	
..... REACTION 113									
N*+1236PPI+PI-=PNPI+PI+PI-	12.231	4.641	5.500	.1700		.0600		ALEXAND.PR154,1284-67	
	20.608	9.106	10.000	.5800		.1400		ALMEIDA PR174,1638-68	
THRESHOLD	6.02	1.33	2.07					2 DATA POINTS LISTED	
..... REACTION 114									
N*+1236PRHO	37.458	18.085	19.000	.0500		.0300		BOGGILO,NPB2C,441-70	
THRESHOLD	8.61	2.71	3.53						
..... REACTION 115									
N*+1236NRH+	37.458	18.085	19.000	.1290		.0250		BOGGILO,NPB2C,441-70	
THRESHOLD	8.62	2.72	3.53						
..... REACTION 116									
N*+1236LK+	14.270	5.728	6.600	7.0000	MICROB	2.0000		KLEIN LCRL18072-68	
THRESHOLD	8.09	2.44	3.24						
..... REACTION 117									
N*+1236LK+=LPK+PIO	13.157	5.135	6.000	4.0000	MICROB	2.0000		KLEIN,PR1,3019-70	
THRESHOLD	8.09	2.44	3.24						
..... REACTION 118									
N*+1236LK+=LNK+PI+	13.157	5.135	6.000	0.0000	MICROB	1.0000		KLEIN,PR1,3019-70	$
THRESHOLD	8.09	2.44	3.24						
..... REACTION 119									
N*-1236PPI+PI+	12.231	4.641	5.500	0.0000	MICROB	ERROR NOT GIVEN		ALEXAND.PR154,1284-67	$
	14.865	6.045	6.970	.8400		.1000		YEKUTIE. NPB18,301-70	
THRESHOLD	6.02	1.33	2.07					2 DATA POINTS LISTED	
..... REACTION 120									
N*-1236PPI+PI+=PNPI+PI+PI-	9.452	3.161	3.990	U .1000				BOCINI NC58A,475-68	U
	13.157	5.135	6.000	.8500		.2000		CASO NC55A,66-68	
	20.608	9.106	10.000	.7700		.1000		ALMEIDA PR174,1638-68	
THRESHOLD	6.02	1.33	2.07					3 DATA POINTS LISTED	
..... REACTION 121									
N*-1236P3PI+PI-	14.865	6.045	6.920	.1000		.0700		DANIELI,NPB27,157-71	
THRESHOLD	7.47	2.10	2.89						
..... REACTION 122									
N*01236PPI+=PPPI+PI-	9.452	3.161	3.990	.4400		.3000		BOCINI NC58A,475-68	
	12.231	4.641	5.500	.1200		.0100		ALEXAND.PR154,1284-67	
	13.157	5.135	6.000	.0500		ERROR NOT GIVEN		CASO NC55A,66-68	
	17.062	7.216	8.100	.5100		.1000		KAYAS NPB5,169-68	
	20.608	9.106	10.000	.2900		.1200		ALMEIDA PR174,1638-68	
THRESHOLD	5.35	.98	1.67					5 DATA POINTS LISTED	
..... REACTION 123									
N*01236PPI+PIO=PPPI+PI-PIC	9.452	3.161	3.990	U .1200				BOCINI NC58A,475-68	U
	12.231	4.641	5.500	.0100		.0100		ALEXAND.PR154,1284-67	
	13.157	5.135	6.000	.6000		.2000		CASO NC55A,66-68	
	20.608	9.106	10.000	.5800		.1300		ALMEIDA PR174,1638-68	
THRESHOLD	5.99	1.32	2.05					4 DATA POINTS LISTED	
..... REACTION 124									
N*01236PRH+	37.458	18.085	19.000	.0740		.0300		BOGGILO,NPB2C,441-70	
THRESHOLD	8.61	2.71	3.53						
..... REACTION 125									
N*01236NPI+PI+=PNPI+PI+PI-	20.608	9.106	10.000	.1200		.0700		ALMEIDA PR174,1638-68	
THRESHOLD	6.02	1.33	2.07						
..... REACTION 126									
N*1236NRH	37.458	18.085	19.000	.5690		.0700		BOGGILO,NPB2C,441-70	A
THRESHOLD	8.64	2.73	3.54						

FOOTNOTES

$=DATA POINT NOT USED IN FITTING OR PLOTTING
U=UPPER LIMIT
A=SUM OF ALL FINAL STATES WHICH INCLUDE THE GIVEN PARTICLES

PP

	S	K.ENERGY	PLAB	CROSS SECTION	ERROR +	ERROR -	REFERENCE	FOOTNOTES
..... REACTION 127								
N+1400P	10.478	3.707	4.550	.6400	.080C		BLAIR,NC63A,529-69	
	13.268	5.194	6.060	.650C	.180C		BLAIR,NC63A,529-69	
	16.652	6.997	7.880	.450C	.090C		BLAIR,NC63A,529-69	
	20.608	9.106	10.000	.5440	.090C		ANDERSON PRL16,855-66	
	29.963	14.091	15.000	.6020	.106C		ANDERSON PRL16,855-66	
	29.963	14.091	15.000	.800C	.100C		ABRAMS,PRL25,699-70	
	35.584	17.086	18.000	.450C	.050C		FOLEY PRL19,397-67	1
	39.332	19.084	20.000	.660C	.150C		ANDERSON PRL16,855-66	
	58.084	29.076	30.000	.7440	.350C		ANDERSON PRL16,855-66	
THRESHOLD	5.47	1.04	1.74				9 DATA POINTS LISTED	
				FIT OF SIGMA AGAINST PLAB GEV/C				
				9 DATA POINTS USED ABOVE 4.0 GEV/C , PROB. = .90				
				K = .67 +- .34 N = -.06 +- .20				
..... REACTION 128								
N+1400P=PPPI+PI-	20.608	9.106	10.000	.1800	.040C		ALMEIDA PR174,1638-68	
THRESHOLD	5.47	1.04	1.74					
..... REACTION 129								
N+1400P=PPPIO	12.231	4.641	5.500	.360C	.060C		ALEXAND.PR154,1284-67	
	13.286	5.204	6.070	.110C	.090C		TAN PL28B,195-68	
	17.062	7.216	8.100	.250C	.150C		CINESTET,NPB13,283-69	
THRESHOLD	5.47	1.04	1.74				3 DATA POINTS LISTED	
..... REACTION 130								
N+1400P=PNPI+	12.231	4.641	5.500	.800C	.160C		ALEXAND.PR154,1284-67	
	13.286	5.204	6.070	.270C	.130C		TAN PL28B,195-68	
	17.062	7.216	8.100	.500C	.150C		CINESTET,NPB13,283-69	
	20.608	9.106	10.000	.2000	.130C		ALMEIDA PR174,1638-68	
THRESHOLD	5.47	1.04	1.74				4 DATA POINTS LISTED	
..... REACTION 131								
N01400PPI+=PPPI+PI-	9.452	3.161	3.990	.1100	.110C		BOCINI NC56A,475-66	
	12.231	4.641	5.500	.0400	.010C		ALEXAND.PR154,1284-67	
THRESHOLD	6.14	1.40	2.14				2 DATA POINTS LISTED	
..... REACTION 132								
N01400N***1236=PPPI+PI-	12.231	4.641	5.500	.130C	.040C		ALEXAND.PR154,1284-67	
THRESHOLD	6.95	1.83	2.60					
..... REACTION 133								
N+(1470+1525)P	17.062	7.216	8.100	.500C	.200C		KAYAS NPB5,169-68	
THRESHOLD	5.80	1.21	1.94					
..... REACTION 134								
N+1525P	10.478	3.707	4.550	.6800	.080C		BLAIR,NC63A,529-69	
	12.231	4.641	5.500	.800C	.400C		ALEXAND.PR154,1284-67	*
	13.268	5.194	6.060	.450C	.090C		BLAIR,NC63A,529-69	
	16.652	6.997	7.880	.310C	.050C		BLAIR,NC63A,529-69	
	20.608	9.106	10.000	.1960	.056C		ANDERSON PRL16,855-66	
	29.963	14.091	15.000	.160C	.032C		ANDERSON PRL16,855-66	
	29.963	14.091	15.000	.280C	.050C		ABRAMS,PRL25,699-70	
	39.332	19.084	20.000	.1700	.030C		ANDERSON PRL16,855-66	
	58.084	29.076	30.000	.1660	.042C		ANDERSON PRL16,855-66	
THRESHOLD	6.07	1.36	2.09				9 DATA POINTS LISTED	
				FIT OF SIGMA AGAINST PLAB GEV/C				
				5 DATA POINTS USED ABOVE 5.0 GEV/C , PROB. = .99				
				K = .39 +- .69 N = -.25 +- .63				
..... REACTION 135								
N+1525P=PPPIO	12.231	4.641	5.500	C.0000 MICROB	40.0000		ALEXAND.PR154,1284-67	$
	13.286	5.204	6.070	.080C	.050C		TAN PL28B,195-68	
THRESHOLD	6.07	1.36	2.09				2 DATA POINTS LISTED	
..... REACTION 136								
N+1525P=PPPI+PI-	12.268	4.661	5.520	.570C	.050C		ALEXAND.PR154,1284-67	
	20.608	9.106	10.000	.150C	.040C		ALMEIDA PR174,1638-68	
THRESHOLD	6.07	1.36	2.09				2 DATA POINTS LISTED	
..... REACTION 137								
N+1525P=PNPI+	12.231	4.641	5.500	.440C	.200C		ALEXAND.PR154,1284-67	
	13.286	5.204	6.070	.150C	.090C		TAN PL28B,195-68	
THRESHOLD	6.07	1.36	2.09				2 DATA POINTS LISTED	
..... REACTION 138								
N+1525PPIO=PPPI+PI-PIO	12.231	4.641	5.500	.440C	.090C		ALEXAND.PR154,1284-67	
THRESHOLD	6.75	1.72	2.49					
..... REACTION 139								
N+1525NPI+=PNPI+PI+PI-	12.231	4.641	5.500	.420C	.180C		ALEXAND.PR154,1284-67	
THRESHOLD	6.79	1.74	2.51					
..... REACTION 140								
N+1525PPI+PI-=PNPI+PI+PI-	20.608	9.106	10.000	.0700	.070C		ALMEIDA PR174,1638-68	
THRESHOLD	7.52	2.13	2.92					

FOOTNOTES

1=AVERAGE VALUE OVER A BAND OF MOMENTA
*=CROSS SECTION DEDUCED BY EDITORS FROM PUBLISHED RESULTS
$=DATA POINT NOT USED IN FITTING OR PLOTTING

PP

	S	K.ENERGY	PLAB		CROSS SECTION		ERROR +	ERROR -		REFERENCE	FOOT-NOTES
..... REACTION 141											
N+1525PPI+PI-(N+=N*++PI-)	14.865	6.045	6.920		.0600		.0300			DANIELI,NPB27,157-71	
THRESHOLD	7.52	2.13	2.92								
..... REACTION 142											
N+1525PPI+PI-PIO(N=N*++PI-)	14.865	6.045	6.920		.0600		.0300			DANIELI,NPB27,157-71	
THRESHOLD	8.28	2.53	3.34								
..... REACTION 143											
N+1525N2PI+PI-(N+=N*++PI-)	14.865	6.045	6.920		.0900		.0300			DANIELI,NPB27,157-71	
THRESHOLD	8.31	2.55	3.36								
..... REACTION 144											
N+1525N+2525	55.270	27.577	28.500	U	.0400					KENYON NP B12,255-69	U
THRESHOLD	9.30	3.08	3.91								
..... REACTION 145											
N01525PPI+=PPPI+PI-	9.452	3.161	3.990		.1500		.1500			BOCINI NC58A,475-68	
	12.231	4.641	5.500		.0800		.0200			ALEXAND.PR154,1284-67	
	13.157	5.135	6.000		.1300		ERROR NOT GIVEN			CASC NC55A,66-68	
	17.062	7.216	8.100		.3300		.0600			KAYAS NPB5,169-68	
	20.608	9.106	10.000		.1500		.0600			ALMEIDA PR174,1638-68	
THRESHOLD	6.78	1.73	2.50							5 DATA POINTS LISTED	
..... REACTION 146											
N01525PPI+=PPPI+PI-PIO	12.231	4.641	5.500		.1100		.0400			ALEXAND.PR154,1284-67	
THRESHOLD	6.78	1.73	2.50								
..... REACTION 147											
N01525PPI+=PNPI+PI+PI-	12.231	4.641	5.500		.2600		.0300			ALEXAND.PR154,1284-67	
THRESHOLD	6.78	1.73	2.50								
..... REACTION 148											
N01525PPI+PIO=PPPI+PI-PIO	20.608	9.106	10.000		.1400		.1200			ALMEIDA PR174,1638-68	
THRESHOLD	7.50	2.12	2.91								
..... REACTION 149											
N01525P2PI+PI-(NO=N*-PI+)	14.865	6.045	6.920		.0400		.0300			DANIELI,NPB27,157-71	
THRESHOLD	8.31	2.55	3.36								
..... REACTION 150											
N01525N*++1236=PPPI+PI-	12.231	4.641	5.500		.0200		.0200			ALEXAND.PR154,1284-67	
	13.157	5.135	6.000		.2300		.1200			CASC NC55A,66-68	
	17.062	7.216	8.100		.1300		.0400			KAYAS NPB5,169-68	
THRESHOLD	7.62	2.19	2.98							3 DATA POINTS LISTED	
..... REACTION 151											
N01525N*++1236=PPPI+PI-PIO	9.452	3.161	3.990		.0400		.0400			BOCINI NC58A,475-68	
	12.231	4.641	5.500		0.0000	MICROB	ERROR NOT GIVEN			ALEXAND.PR154,1284-67	$
THRESHOLD	7.62	2.19	2.98							2 DATA POINTS LISTED	
..... REACTION 152											
N01525N*++1236=PNPI+PI+PI-	12.231	4.641	5.500		.1500		.0200			ALEXAND.PR154,1284-67	
THRESHOLD	7.62	2.19	2.98								
..... REACTION 153											
N+1688P	10.478	3.707	4.550		.7000		.1000			BLAIR,NC63A,529-69	
	12.231	4.641	5.500		.8300		.2600			ALEXAND.PR154,1284-67	*
	13.268	5.194	6.060		.5000		.1000			BLAIR,NC63A,529-69	
	16.652	6.997	7.880		.4600		.0900			BLAIR,NC63A,529-69	
	17.062	7.216	8.100		.5500		.1000			KAYAS NPB5,169-68	
	20.608	9.106	10.000		.5620		.0580			ANDERSON PRL16,855-66	
	29.963	14.091	15.000		.5860		.0460			ABRAMS,PRL25,699-70	
	29.963	14.091	15.000		.6380		.0680			ANDERSON PRL16,855-66	
	35.584	17.086	18.000		.3500		.1000			FOLEY PRL19,397-67	1
	39.332	19.084	20.000		.5600		.0700			ANDERSON PRL16,855-66	
	58.084	29.076	30.000		.5760		.0840			ANDERSON PRL16,855-66	
THRESHOLD	6.90	1.80	2.57							11 DATA POINTS LISTED	

FIT OF SIGMA AGAINST PLAB GEV/C

6 DATA POINTS USED ABOVE 9.0 GEV/C , PROB. = .92

K = .61 +- .51 N = -.02 +- .30

..... REACTION 154											
N+1688P=PPP0	12.231	4.641	5.500		.2200		.0600			ALEXAND.PR154,1284-67	
	13.286	5.204	6.070		.1000		.0500			TAN PL28B,195-68	
	17.062	7.216	8.100		.1000		.0500			GINESTET,NPB13,283-69	
THRESHOLD	6.90	1.80	2.57							3 DATA POINTS LISTED	
..... REACTION 155											
N+1688P=PPPI+PI-	12.231	4.641	5.500		.4800		.0400			ALEXAND.PR154,1284-67	
	17.062	7.216	8.100		.1600		.0300			KAYAS NPB5,169-68	
	20.608	9.106	10.000		.2200		.0700			ALMEIDA PR174,1638-68	
THRESHOLD	6.90	1.80	2.57							3 DATA POINTS LISTED	
..... REACTION 156											
N+1688P=PNPI+	12.231	4.641	5.500		.3200		.0600			ALEXAND.PR154,1284-67	
	13.286	5.204	6.070		.1900		.0900			TAN PL28B,195-68	
	17.062	7.216	8.100		.1000		.0500			GINESTET,NPB13,283-69	
THRESHOLD	6.90	1.80	2.57							3 DATA POINTS LISTED	

FOOTNOTES

U=UPPER LIMIT
$=DATA POINT NOT USED IN FITTING OR PLOTTING
*=CROSS SECTION DEDUCED BY EDITORS FROM PUBLISHED RESULTS
1=AVERAGE VALUE OVER A BAND OF MOMENTA

PP

	S	K.ENERGY	PLAB	CROSS SECTION	ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 157 ..... N+1688PPIO=PPPI+PI-PIO	12.231	4.641	5.500	.1700	.1300		ALEXAND.PR154,1284-67	
THRESHOLD	7.62	2.19	2.98					
..... REACTION 158 ..... N+1688P=N*1236PPI=PPPI+PI-	17.062	7.216	8.100	.1400	.0300		KAYAS NPB5,169-68	
THRESHOLD	3.17	0.00	0.00					
..... REACTION 159 ..... N+1688NPI+=PNPI+PI+PI-	12.231	4.641	5.500	.0700	.0200		ALEXAND.PR154,1284-67	
THRESHOLD	7.66	2.20	3.00					
..... REACTION 160 ..... N+1688N+1688	55.270	27.577	28.500	.1100	ERROR NOT GIVEN		KENYON NPB13,283-69	
THRESHOLD	11.40	4.20	5.05					
..... REACTION 161 ..... N01688PPI+=PPPI+PI-	9.452	3.161	3.990	.1080	.0800		BOOINI NC5EA,475-68	
	12.231	4.641	5.500	.0200	.0200		ALEXAND.PR154,1284-67	
	13.157	5.135	6.000	.0500	ERROR NOT GIVEN		CASO NC55A,66-68	
	17.062	7.216	8.100	.2500	.0500		KAYAS NPB5,169-68	
	20.608	9.106	10.000	.1600	.0600		ALMEIDA PR174,1638-68	
THRESHOLD	7.65	2.20	3.00				5 DATA POINTS LISTED	
..... REACTION 162 ..... N01688PPI+=PPPI+PI-PIO	12.231	4.641	5.500	.0200	.0200		ALEXAND.PR154,1284-67	
THRESHOLD	7.65	2.20	3.00					
..... REACTION 163 ..... N01688PPI+=PNPI+PI+PI-	12.231	4.641	5.500	.0400	.0200		ALEXAND.PR154,1284-67	
	20.608	9.106	10.000	.1600	ERROR NOT GIVEN		ALMEIDA PR174,1638-68	
THRESHOLD	7.65	2.20	3.00				2 DATA POINTS LISTED	
..... REACTION 164 ..... N01688N*++1236=PPPI+PI-	12.231	4.641	5.500	.2100	.0400		ALEXAND.PR154,1284-67	
	13.157	5.135	6.000	.1800	.1000		CASO NC55A,66-68	
	17.062	7.216	8.100	.1400	.0400		KAYAS NPB5,169-68	
THRESHOLD	8.55	2.68	3.49				3 DATA POINTS LISTED	
..... REACTION 165 ..... N01688N*++1236=PPPI+PI-PIO	9.452	3.161	3.990	.1200	.0700		BOOINI NC5EA,475-68	
THRESHOLD	8.55	2.68	3.49					
..... REACTION 166 ..... N01688N*++1236=PNPI+PI+PI-	12.231	4.641	5.500	.0600	.0200		ALEXAND.PR154,1284-67	
THRESHOLD	8.55	2.68	3.49					
..... REACTION 167 ..... N*++1920N	12.231	4.641	5.500	.3200	.1600		ALEXAND.PR154,1284-67	
	17.062	7.216	8.100	.4500	.2000		GINESTET,NPB13,283-69	
	20.608	9.106	10.000	.3800	.1100		ALMEIDA PR174,1638-68	
	37.458	18.085	19.000	.0290	.0070		BOGGILO NP16B,503-70	
THRESHOLD	8.18	2.48	3.29				4 DATA POINTS LISTED	
..... REACTION 168 ..... N*++1920N=PNPI+PI+PI-	13.231	5.174	6.040	.0650	.0160		CHINOW.UCRL-17651-67	
THRESHOLD	8.18	2.48	3.29					
..... REACTION 169 ..... N*++1920N=N*++1236NPI+PI-	37.458	18.085	19.000	.0310	.0080		SCANDINAVIA LUND69	
	37.458	18.085	19.000	.0290	.0070		BOGGILO,NPB16,503-70	
THRESHOLD	8.18	2.48	3.29				2 DATA POINTS LISTED	
..... REACTION 170 ..... N*++1920N=S+NK+	13.231	5.174	6.040	.0220	.0040		CHINOW.PR171,1421-68	
THRESHOLD	8.18	2.48	3.29					
..... REACTION 171 ..... N*++1920N=Y*+1385NK+	13.231	5.174	6.040	.0130	.0030		CHINOW.PR171,1421-68	
THRESHOLD	8.18	2.48	3.29					
..... REACTION 172 ..... N*+1920P=PPPIO	12.231	4.641	5.500	0.0000 MICROB	ERROR NOT GIVEN		ALEXAND.PR154,1284-67	$
THRESHOLD	8.17	2.48	3.28					
..... REACTION 173 ..... N*+1920P=PPPI+PI-	12.231	4.641	5.500	.4200	.0600		ALEXAND.PR154,1284-67	
THRESHOLD	8.17	2.48	3.28					
..... REACTION 174 ..... N*+1920P=PPPI+PI-PIO	13.231	5.174	6.040	.0200	.0060		CHINOW.UCRL-17651-67	
THRESHOLD	8.17	2.48	3.28					
..... REACTION 175 ..... N*+1920P=PNPI+	12.231	4.641	5.500	0.0000 MICROB	ERROR NOT GIVEN		ALEXAND.PR154,1284-67	$
THRESHOLD	8.17	2.48	3.28					

FOOTNOTES

$=DATA POINT NOT USED IN FITTING OR PLOTTING

PP

	S	K.ENERGY	PLAB		CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 176										
N*+1920P=PNPI+PI+PI-	13.231	5.174	6.040	U	6.0000	MICROB			CHINCH.LCRL-17651-67	U
THRESHOLD	8.17	2.48	3.28							
..... REACTION 177										
N+2190P	29.963	14.091	15.000		.1280		.0240		ABRAMS,PRL25,699-70	
	39.332	19.084	20.000		.1280		.0240		ANDERSON PRL16,855-66	
	58.084	29.076	30.000		.1080		.0360		ANDERSON PRL16,855-66	
THRESHOLD	9.78	3.34	4.17						3 DATA POINTS LISTED	
..... REACTION 178										
N*++2360N=PNPI+	12.231	4.641	5.500		.2000		.0800		ALEXAND.PR154,1284-67	
THRESHOLD	10.89	3.93	4.77							
..... REACTION 179										
N*+2360P=PPPIO	12.231	4.641	5.500		0.0000	MICROB	ERROR NOT GIVEN		ALEXAND.PR154,1284-67	$
THRESHOLD	10.88	3.92	4.77							
..... REACTION 180										
N*+2360P=PPPI+PI-	12.231	4.641	5.500		0.0000	MICROB	ERROR NOT GIVEN		ALEXAND.PR154,1284-67	$
THRESHOLD	10.88	3.92	4.77							
..... REACTION 181										
N*+2360P=PNPI+	12.231	4.641	5.500		0.0000	MICROB	ERROR NOT GIVEN		ALEXAND.PR154,1284-67	$
THRESHOLD	10.88	3.92	4.77							
..... REACTION 182										
LPK+	7.314	2.021	2.807		.0180		.0050		FICKI. PR125,2082,62	
	8.869	2.850	3.670		.0510		.0120		LOUTIT PR123,1465-61	
	11.215	4.100	4.950		.0480		.0040		BIERMAN PR147,922-66	
	12.046	4.543	5.400		.0670		.0050		DUNWCODI,UCLA,1033-68	
	12.138	4.592	5.450		.0580		.0070		WICKLU. BAPS12,505-67	
	12.231	4.641	5.500		.0358		.0059		ALEXAND.PR154,1284-67	
	13.157	5.135	6.000		.0590		.0110		CASC NC55A,66-68	
	13.157	5.135	6.000		.0540		.0030	.0050	CHINCH.PR165,1466-68	
	14.270	5.728	6.600		.0540		.0070		DUNWCODI,UCLA,1033-68	
	14.865	6.045	6.920		.0433		.0080		ALEXAND. NC53A,455-68	
	16.633	6.987	7.870		.0544		.0073		FIREB.PR172,1354-68	S
THRESHOLD	6.49	1.58	2.34						11 DATA POINTS LISTED	
..... REACTION 183										
LPK+PIO	11.215	4.100	4.950		.0280		.0030		BIERMAN PR147,922-66	
	12.046	4.543	5.400		.0430		.0050		DUNWCODI,UCLA,1033-68	
	12.231	4.641	5.500		.0623		.0123		ALEXAND.PR154,1284-67	
	13.157	5.135	6.000		.0390		.0060		KLEIN,PR1,3019-70	
	13.231	5.174	6.040		.0450		.0070		CHINCH.PR171,1421-68	
	14.270	5.728	6.600		.0490		.0040		DUNWCODI,UCLA,1033-68	
	14.865	6.045	6.920		.0741		.0104		ALEXAND. NC53A,455-68	
	16.633	6.987	7.870		.0775		.0087		FIREB.PR172,1354-68	S
THRESHOLD	6.83	1.76	2.53						8 DATA POINTS LISTED	
..... REACTION 184										
LPK+PIO (NON RESONANT)	13.157	5.135	6.000		.0260		.0040		KLEIN,PR1,3019-70	
THRESHOLD	7.19	1.96	2.74							
..... REACTION 185										
LPK+PI+PI-	11.215	4.100	4.950		7.0000	MICROB	2.0000		BIERMAN PR147,922-66	
	12.231	4.641	5.500		.0213		.0081		ALEXAND.PR154,1284-67	
	14.865	6.045	6.920		.0281		.0064		ALEXAND. NC53A,455-68	
	16.633	6.987	7.870		.0490		.0072		FIREB.PR172,1354-68	S
THRESHOLD	7.99	2.38	3.19						4 DATA POINTS LISTED	
..... REACTION 186										
LPK+PI+PI-PIO	12.268	4.661	5.520		5.0000	MICROB	5.0000		ALEXAND. PRL13,355-64	
	14.865	6.045	6.920		.0142		.0043		ALEXAND. NC53A,455-68	
	16.633	6.987	7.870		.0395		.0063		FIREB.PR172,1354-68	S
THRESHOLD	8.77	2.80	3.62						3 DATA POINTS LISTED	
..... REACTION 187										
LPK0PI+	11.215	4.100	4.950		.0420		.0050		BIERMAN PR147,922-66	
	12.046	4.543	5.400		.0600		.0050		DUNWCODI,UCLA,1033-68	
	12.231	4.641	5.500		.0784		.0126		ALEXAND.PR154,1284-67	
	13.157	5.135	6.000		.0710		.0100		CASC NC55A,66-68	
	13.157	5.135	6.000		.0640		.0060		KLEIN,PR1,3019-70	
	14.270	5.728	6.600		.0670		.0100		KLEIN UCRL18072-68	
	14.865	6.045	6.920		.0898		.0101		ALEXAND. NC53A,455-68	
	16.633	6.987	7.870		.0724		.0074		FIREB.PR172,1354-68	
	20.608	9.106	10.000		.1060		.0290		HOLMGREN NC51A,305-67	
THRESHOLD	7.22	1.97	2.75						9 DATA POINTS LISTED	

FOOTNOTES

U=UPPER LIMIT
$=DATA POINT NOT USED IN FITTING OR PLOTTING
S=STATISTICAL ERROR ONLY

********** PP **********

	S	K.ENERGY	PLAB	CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 188									
LPKOPI+ (NON RESONANT)	13.157	5.135	6.000	.0230		.0030		KLEIN,PR1,3019-70	
THRESHOLD	7.24	1.98	2.77						
..... REACTION 189									
LPKOPI+PIO	12.231	4.641	5.500	.0174		.0123		ALEXANC.PR154,1284-67	
	14.865	6.045	6.920	.0396		.0128		ALEXANC. NC53A,455-68	
	16.633	6.987	7.870	.0674		.0150		FIREB.PR172,1354-68	S
	20.608	9.106	10.000	.0580		.0140		HOLMGREN NC51A,305-67	
THRESHOLD	7.97	2.37	3.17					4 DATA POINTS LISTED	
..... REACTION 190									
LPKOPI+PI+PI-	12.231	4.641	5.500	.9000	MICROB	1.3000		ALEXANC.PR154,1284-67	
	14.865	6.045	6.920	6.2000	MICROB	2.6000		ALEXANC. NC53A,455-68	
	16.633	6.987	7.870	.0231		.0042		FIREB.PR172,1354-68	S
	20.608	9.106	10.000	.0230		.0120		HOLMGREN NC51A,305-67	
THRESHOLD	8.80	2.81	3.63					4 DATA POINTS LISTED	
..... REACTION 191									
LPKOPI+PI+PI-PIO	20.608	9.106	10.000	.0340		.0110		HOLMGREN NC51A,305-67	
THRESHOLD	9.62	3.25	4.08						
..... REACTION 192									
LPK*+89C=LPK+PIO	13.157	5.135	6.000	2.0000	MICROB	1.0000		KLEIN,PR1,3019-70	
THRESHOLD	8.68	2.75	3.56						
..... REACTION 193									
LPK*+89O=LPKOPI+	13.157	5.135	6.000	6.0000	MICROB	2.0000		KLEIN,PR1,3019-70	
THRESHOLD	8.68	2.75	3.56						
..... REACTION 194									
LNK+PI+	11.215	4.100	4.950	.0410		.0050		BIERMAN PR147,922-66	
	12.046	4.543	5.400	.0500		.0050		CUNNCCDI,LCLA,1033-68	
	12.231	4.641	5.500	.0754		.0157		ALEXANC.PR154,1284-67	
	13.157	5.135	6.000	.0430		.0040		KLEIN,PR1,3019-70	
	14.270	5.728	6.600	.0600		.0040		CUNNCCDI,LCLA,1033-68	
	14.865	6.045	6.920	.0782		.0106		ALEXANC. NC53A,455-68	
	16.633	6.987	7.870	.1010		.0103		FIREB.PR172,1354-68	S
THRESHOLD	7.23	1.98	2.76					7 DATA POINTS LISTED	
..... REACTION 195									
LNK+PI+ (NON RESONANT)	13.157	5.135	6.000	.0290		.0030		KLEIN,PR1,3019-70	
THRESHOLD	7.28	2.01	2.79						
..... REACTION 196									
LNK+PI+PI+PI-	12.231	4.641	5.500	1.1000	MICROB	1.6000		ALEXANC.PR154,1284-67	
	14.865	6.045	6.920	.0101		.0035		ALEXANC. NC53A,455-68	
	16.633	6.987	7.870	.0203		.0047		FIREB.PR172,1354-68	S
THRESHOLD	8.81	2.82	3.64					3 DATA POINTS LISTED	
..... REACTION 197									
LNKOPI+PI+	14.865	6.045	6.920	.0296		.0105		ALEXANC. NC53A,455-68	
	16.633	6.987	7.870	.0202		.0083		FIREB.PR172,1354-68	S
	20.608	9.106	10.000	.0420		.0140		HOLMGREN NC51A,305-67	
THRESHOLD	8.02	2.40	3.20					3 DATA POINTS LISTED	
..... REACTION 198									
LNKOPI+PI+PI+PI-	20.608	9.106	10.000	.0130		.0080		HOLMGREN NC51A,305-67	
THRESHOLD	9.68	3.28	4.11						
..... REACTION 199									
Y	8.869	2.850	3.670	.1750		.0320		LOUTTIT PR123,1465-61	A
THRESHOLD	6.49	1.58	2.34						
..... REACTION 200									
Y(N/P)KPI	13.157	5.135	6.000	.1750		.0160		CASC NC55A,66-68	A
THRESHOLD	7.24	1.98	2.77						
..... REACTION 201									
YK	7.641	2.195	2.990	.1750		.0320		LOUTTIT PR123,1465-61	A
	47.769	23.580	24.500	3.1000		.3000		BARTKE NC29,8-63	A
THRESHOLD	6.49	1.58	2.34					2 DATA POINTS LISTED	
..... REACTION 202									
SO/L	47.769	23.580	24.500	1.1300		.2000		BARTKE NC29,8-63	A
THRESHOLD	6.48	1.58	2.33						
..... REACTION 203									
(SO/L)KO	20.608	9.106	10.000	.3340		.0440		HOLMGREN NC51A,305-67	A
THRESHOLD	7.24	1.98	2.77						
..... REACTION 204									
(SO/L)PK+PIO	8.869	2.850	3.670	.0110		.0050		LOUTTIT PR123,1465-61	
	13.157	5.135	6.000	.0360		.0090		CASC NC55A,66-68	
THRESHOLD	7.19	1.96	2.74					2 DATA POINTS LISTED	

FOOTNOTES

S=STATISTICAL ERROR ONLY
A=SUM OF ALL FINAL STATES WHICH INCLUDE THE GIVEN PARTICLES

PP

		S	K.ENERGY	PLAB	CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 205										
(SO/L)PKOPI+		8.869	2.850	3.670	.0140		.0050		LOUTTIT PR123,1465-61	
	THRESHOLD	7.18	1.95	2.73						
..... REACTION 206										
(SO/L)NK+PI+		8.869	2.850	3.670	2.0000	MICROB	2.0000		LOUTTIT PR123,1465-61	
		13.157	5.135	6.000	.0520		.0090		CASC NC55A,66-68	
	THRESHOLD	7.28	2.01	2.79					2 DATA POINTS LISTED	
..... REACTION 207										
S+		47.769	23.580	24.500	1.6000		.2000		BARTKE NC2S,8-63	A
	THRESHOLD	6.87	1.78	2.56						
..... REACTION 208										
S+PK+PI-		8.887	2.859	3.680	3.0000	MICROB	2.0000		LOUTTIT PR123,1465-61	
		12.046	4.543	5.400	.0190		.0050		DUNWOODI,UCLA,1033-68	
		14.270	5.728	6.600	.0370		.0070		DUNWOODI,UCLA,1033-68	
		16.633	6.987	7.870	.0374		.0078		FIREB.PR172,1354-68	S
	THRESHOLD	7.62	2.19	2.98					4 DATA POINTS LISTED	
..... REACTION 209										
S+PK+PI-PIO		16.633	6.987	7.870	.0173		.0071		FIREB.PR172,1354-68	S
	THRESHOLD	8.39	2.59	3.41						
..... REACTION 210										
S+PKO		8.869	2.850	3.670	.0300		.0100		LOUTTIT PR123,1465-61	
		11.215	4.100	4.950	.0170		.0030		BIERMAN PR147,922-66	
		11.215	4.100	4.950	.0249		.0023		SONDHI PL26B,645-68	
		12.046	4.543	5.400	.0330		.0050		DUNWOODI,UCLA,1033-68	
		13.157	5.135	6.000	.0260		.0040		CHINCH.PR165,1466-68	
		14.270	5.728	6.600	.0260		.0050		DUNWOODI,UCLA,1033-68	
		14.865	6.045	6.920	.0202		.0074		ALEXAND. NC53A,455-68	
		16.633	6.987	7.870	.0143		.0051		FIREB.PR172,1354-68	S
		20.608	9.106	10.000	.0600		.0200		HOLMGREN NC51A,305-67	
	THRESHOLD	6.89	1.80	2.57					9 DATA POINTS LISTED	
..... REACTION 211										
S+PKOPIO		11.215	4.100	4.950	7.0000	MICROB	2.0000		BIERMAN PR147,922-66	
		12.046	4.543	5.400	.0130		.0050		DUNWOODI,UCLA,1033-68	
		12.231	4.641	5.500	9.4000	MICROB	6.6000		ALEXAND.PR154,1284-67	
		14.270	5.728	6.600	.0240		.0050		DUNWOODI,UCLA,1033-68	
		14.865	6.045	6.920	.0108		.0053		ALEXAND. NC53A,455-68	
		16.633	6.987	7.870	.0179		.0057		FIREB.PR172,1354-68	S
		20.608	9.106	10.000	.0310		.0130		HOLMGREN NC51A,305-67	
	THRESHOLD	7.62	2.18	2.98					7 DATA POINTS LISTED	
..... REACTION 212										
S+PKOPI+PI-		12.231	4.641	5.500	4.1000	MICROB	4.1000		ALEXAND.PR154,1284-67	
		14.865	6.045	6.920	.0105		.0051		ALEXAND. NC53A,455-68	
		16.633	6.987	7.870	.0147		.0074		FIREB.PR172,1354-68	S
		20.608	9.106	10.000	.0350		.0130		HOLMGREN NC51A,305-67	
	THRESHOLD	8.44	2.62	3.43					4 DATA POINTS LISTED	
..... REACTION 213										
S+PKOPI+PI-PIO		20.608	9.106	10.000	0.0000	MICROB	ERROR NOT GIVEN		HOLMGREN NC51A,305-67	$
	THRESHOLD	9.24	3.05	3.87						
..... REACTION 214										
S+(P/N)K?I		8.869	2.850	3.670	4.0000	MICROB	3.0000		LOUTTIT PR123,1465-61	A
	THRESHOLD	7.62	2.18	2.98						
..... REACTION 215										
S+NK+		8.869	2.850	3.670	.0470		.0130		LOUTTIT PR123,1465-61	
		11.215	4.100	4.950	.0481		.0035		SONDHI PL26B,645-68	
		12.046	4.543	5.400	.0850		.0120		DUNWOODI,UCLA,1033-68	
		13.157	5.135	6.000	.0570		.0070		CHINCH.PR165,1466-68	
		14.270	5.728	6.600	.0850		.0110		DUNWOODI,UCLA,1033-68	
	THRESHOLD	6.88	1.79	2.56					5 DATA POINTS LISTED	
..... REACTION 216										
S+NK+PI+PI-		16.633	6.987	7.870	.0288		.0091		FIREB.PR172,1354-68	S
	THRESHOLD	8.42	2.61	3.42						

FOOTNOTES

A=SUM OF ALL FINAL STATES WHICH INCLUDE THE GIVEN PARTICLES
S=STATISTICAL ERROR ONLY
$=DATA POINT NOT USED IN FITTING OR PLOTTING

PP

	S	K.ENERGY	PLAB	CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 217 ..... S+NKOPI+									
	11.215	4.100	4.950	7.0000	MICROB	2.0000		BIERMAN PR147,922-66	
	12.046	4.543	5.400	.0160		.0050		DUNNCCCI,UCLA,1033-68	
	12.231	4.641	5.500	4.1000	MICROB	4.1000		ALEXAND.PR154,1284-67	
	14.270	5.728	6.600	.0420		.0070		DUNNCCCI,UCLA,1033-68	
	14.865	6.045	6.920	5.3000	MICROB	3.6000		ALEXAND. NC53A,455-68	
	16.633	6.987	7.870	.0214		.0062		FIREB.PR172,1354-68	S
	20.608	9.106	10.000	.0490		.0160		HOLMGREN NC51A,305-67	
THRESHOLD	7.65	2.20	3.00					7 DATA POINTS LISTED	
..... REACTION 218 ..... S+NKOPI+PI+PI-									
	14.865	6.045	6.920	2.6000	MICROB	2.5000		ALEXAND. NC53A,455-68	
	20.608	9.106	10.000	5.0000	MICROB	4.0000		HOLMGREN NC51A,305-67	
THRESHOLD	8.44	2.62	3.44					2 DATA POINTS LISTED	
..... REACTION 219 ..... S+KO									
	20.608	9.106	10.000	.2390		.0400		HOLMGREN NC51A,305-67	A
THRESHOLD	6.87	1.78	2.56						
..... REACTION 220 ..... S+KOZO									
	20.608	9.106	10.000	.0590		.0250		HOLMGREN NC51A,305-67	A
THRESHOLD	6.64	1.66	2.42						
..... REACTION 221 ..... S-									
	47.769	23.580	24.500	.4000		.0800		BARTKE NC2S,8-63	A
THRESHOLD	7.66	2.20	3.00						
..... REACTION 222 ..... S-PK+PI+									
	8.869	2.850	3.670	3.0000	MICROB	2.0000		LOUTTIT PR123,1465-61	
	12.046	4.543	5.400	.0250		.0050		DUNNCCCI,UCLA,1033-68	
	14.270	5.728	6.600	.0270		.0040		DUNNCCCI,UCLA,1033-68	
	16.633	6.987	7.870	.0316		.0049		FIREB.PR172,1354-68	S
THRESHOLD	7.66	2.21	3.00					4 DATA POINTS LISTED	
..... REACTION 223 ..... S-PK+PI+PI0									
	16.633	6.987	7.870	.0222		.0046		FIREB.PR172,1354-68	S
THRESHOLD	8.43	2.61	3.43						
..... REACTION 224 ..... S-PK0PI+PI+									
	14.865	6.045	6.920	8.3000	MICROB	4.7000		ALEXAND. NC53A,455-68	
	16.633	6.987	7.870	.0247		.0056		FIREB.PR172,1354-68	S
	20.608	9.106	10.000	.0180		.0070		HOLMGREN NC51A,305-67	
THRESHOLD	8.43	2.62	3.43					3 DATA POINTS LISTED	
..... REACTION 225 ..... S-PK0PI+PI+PI0									
	20.608	9.106	10.000	.0130		.0060		HOLMGREN NC51A,305-67	
THRESHOLD	9.22	3.04	3.86						
..... REACTION 226 ..... S-NK+PI+PI+									
	16.633	6.987	7.870	6.8000	MICROB	2.6000		FIREB.PR172,1354-68	S
THRESHOLD	8.47	2.64	3.45						
..... REACTION 227 ..... S-NK0PI+PI+PI+									
	20.608	9.106	10.000	7.0000	MICROB	4.0000		HOLMGREN NC51A,305-67	
THRESHOLD	9.32	3.09	3.92						
..... REACTION 228 ..... S-KO									
	20.608	9.106	10.000	.0440		.0120		HOLMGREN NC51A,305-67	A
THRESHOLD	8.48	2.64	3.46						
..... REACTION 229 ..... SOPK+									
	8.869	2.850	3.670	.0130		.0070		LOUTTIT PR123,1465-61	
	11.215	4.100	4.950	.0250		.0030		BIERMAN PR147,922-66	
	12.046	4.543	5.400	.0270		.0040		DUNNCCCI,UCLA,1033-68	
	12.231	4.641	5.500	.0160		.0075		ALEXAND.PR154,1284-67	
	13.157	5.135	6.000	.0120		.0050		CASO NC55A,66-68	
	13.157	5.135	6.000	.0170		.0040	.0020	CHINCH.PR165,1466-68	
	14.270	5.728	6.600	.0250		.0030		DUNNCCCI,UCLA,1033-68	
	14.865	6.045	6.920	.0289		.0066		ALEXAND. NC53A,455-68	
	16.633	6.987	7.870	.0252		.0050		FIREB.PR172,1354-68	S
THRESHOLD	6.89	1.79	2.57					9 DATA POINTS LISTED	
..... REACTION 230 ..... SOPK+PI+PI-									
	12.231	4.641	5.500	2.0000	MICROB	2.0000		ALEXAND.PR154,1284-67	
	14.865	6.045	6.920	.0137		.0043		ALEXAND. NC53A,455-68	
	16.633	6.987	7.870	.0214		.0048		FIREB.PR172,1354-68	S
THRESHOLD	8.43	2.62	3.43					3 DATA POINTS LISTED	

FOOTNOTES

S=STATISTICAL ERROR ONLY
A=SUM OF ALL FINAL STATES WHICH INCLUDE THE GIVEN PARTICLES

		S	K.ENERGY	PLAB		CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 231											
SOPKOPI+		11.215	4.100	4.950		.0200		.0030		BIERMAN PR147,922-66	
		12.046	4.543	5.400		.0180		.0050		DUNWOODI,UCLA,1033-68	
		12.231	4.641	5.500		.0288		.0118		ALEXAND.PR154,1284-67	
		13.157	5.135	6.000		.0110		.0020		KLEIN,PR1,3019-70	
		13.157	5.135	6.000		.0160		.0050		CASO NC55A,66-68	
		14.270	5.728	6.600		.0270		.0040		DUNWOODI,UCLA,1033-68	
		14.865	6.045	6.920		.0543		.0121		ALEXAND. NC53A,455-68	
		16.633	6.987	7.870		.0295		.0070		FIREB.PR172,1354-68	S
	THRESHOLD	7.66	2.21	3.00						8 DATA POINTS LISTED	
..... REACTION 232											
SOPKOPI+PI+PI-		14.865	6.045	6.920		1.3000	MICROB	1.8000		ALEXAND. NC53A,455-68	
	THRESHOLD	9.28	3.07	3.90							
..... REACTION 233											
Y*+1385PKO		13.157	5.135	6.000		.0110		.0020		KLEIN,PR1,3019-70	
		14.270	5.728	6.600		.0120		.0020		KLEIN UCRL18072-68	
	THRESHOLD	7.96	2.36	3.17						2 DATA POINTS LISTED	
..... REACTION 234											
Y*+1385NK+		13.157	5.135	6.000		.0150		.0020		KLEIN,PR1,3019-70	
		14.270	5.728	6.600		.0180		.0030		KLEIN UCRL18072-68	
	THRESHOLD	7.95	2.36	3.16						2 DATA POINTS LISTED	
..... REACTION 235											
Y*01385PK+		13.157	5.135	6.000		7.0000	MICROB	1.0000		KLEIN,PR1,3019-70	
		14.270	5.728	6.600		8.0000	MICROB	2.0000		KLEIN UCRL18072-68	
	THRESHOLD	7.96	2.36	3.17						2 DATA POINTS LISTED	
..... REACTION 236											
XI-		47.769	23.580	24.500	U	.0500				BARTKE NC29,8-63	W
	THRESHOLD	10.52	3.73	4.57							
..... REACTION 237											
XI-KK		20.608	9.106	10.000		7.0000	MICROB	5.0000		HOLMGREN NC51A,305-67	A
	THRESHOLD	10.52	3.73	4.57							
..... REACTION 238											
PI+		4.789	.676	1.313		13.4000		2.2000		SIDOROV JETP4,22-57	A
		8.887	2.859	3.680		24.9000		1.2000		WILLIS PRL7,454-61	A
		8.924	2.879	3.700		25.0000		5.0000		MELISSIN. PRL7,454-61	A
	THRESHOLD	4.06	.29	.79						3 DATA POINTS LISTED	
..... REACTION 239											
PI-		8.887	2.859	3.680		4.7000		.7000		WILLIS PRL7,454-61	A
		8.924	2.879	3.700		5.8000		1.5000		MELISSIN. PRL7,454-61	A
	THRESHOLD	4.60	.60	1.22						2 DATA POINTS LISTED	
..... REACTION 240											
PI		9.452	3.161	3.990		12.3000		.5000		BODINI NC58A,475-68	A
	THRESHOLD	4.04	.28	.77							
..... REACTION 241											
2PI		9.452	3.161	3.990		7.5000		ERROR NOT GIVEN		BODINI NC58A,475-68	A
	THRESHOLD	4.61	.58	1.19							
..... REACTION 242											
PI+PI+ZO		6.301	1.481	2.230		.2500		.0600		EISNER PR138B,670-65	
		7.314	2.021	2.807		.6200		.0830		PICKUP PR125,2091-62	
		9.452	3.161	3.990		1.5000		.3000		BODINI NC58A,475-68	
		14.865	6.045	6.920		1.2000		.2000		ALEXAND.PR173,1322-68	
		17.062	7.216	8.100	L	.6000				GINESTET,NPB13,283-69	L
		20.608	9.106	10.000		2.2000		ERROR NOT GIVEN		ALMEIDA PR174,1638-68	C
		37.458	18.085	19.000		1.0000		ERROR NOT GIVEN		SCANDINAVIA LUND69	C
	THRESHOLD	4.66	.61	1.23						7 DATA POINTS LISTED	
..... REACTION 243											
3PI		9.452	3.161	3.990		5.3000		ERROR NOT GIVEN		BODINI NC58A,475-68	A
	THRESHOLD	5.20	.90	1.58							
..... REACTION 244											
4PI		9.452	3.161	3.990		1.9000		ERROR NOT GIVEN		BODINI NC58A,475-68	A
	THRESHOLD	5.84	1.23	1.96							
..... REACTION 245											
PI+PI+PI+PI-ZO		14.865	6.045	6.920		.4000		.1000		YEKUTIE. NPB18,301-70	
		20.608	9.106	10.000		.8000		ERROR NOT GIVEN		ALMEIDA PR174,1638-68	C
	THRESHOLD	9.94	1.29	2.02						2 DATA POINTS LISTED	

FOOTNOTES

S=STATISTICAL ERROR ONLY
W=A TRUE AND U TRUE
A=SUM OF ALL FINAL STATES WHICH INCLUDE THE GIVEN PARTICLES
U=UPPER LIMIT
L=LOWER LIMIT
O=ORDER OF MAGNITUDE

PP

		S	K.ENERGY	PLAB		CROSS SECTION	ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 246										
K+		8.018	2.396	3.200		.0710	.018C		REED UR875-228-68	A
		8.924	2.879	3.700		.1260	.C3CC		REED UR875-228-68	A
		8.924	2.879	3.7CC		.129C	.C25C		LOUTIT PR122,1465-61	1
		11.307	4.149	5.CCC		.2CCC	.03CC		BIERMAN PR147,922-66	A
		12.231	4.641	5.500		.2350	.05CC		ALEXAND.PR154,1284-67	A
		16.876	7.117	8.CCC		.6CCC	.12CC		ASCOLI ABS.9A,6BER66	
		37.083	17.885	18.8CC		.56CC	.2CCC		DEKKERS PR137B,962-65	A
	THRESHOLD	6.48	1.58	2.33					7 DATA POINTS LISTED	
..... REACTION 247										
K0		47.769	23.580	24.500		2.74CC	.25CC		BARTKE NC29,E-63	A
	THRESHOLD	6.89	1.80	2.57						
..... REACTION 248										
K0K0		20.608	9.106	10.CCC		.2C4C	.C42C		HOLMGREN NC51A,305-67	A
	THRESHOLD	8.25	2.52	3.33						
..... REACTION 249										
RH		13.157	5.135	6.CCC	L	.2500			CASC NC55A,66-68	W
	THRESHOLD	7.CC	1.85	2.63						
..... REACTION 250										
AL		46.831	23.080	24.000	U	.C3CC			FILTHUTH,S3,AIX61	W
	THRESHOLD	16.86	7.11	7.59						

FOOTNOTES

A=SUM OF ALL FINAL STATES WHICH INCLUDE THE GIVEN PARTICLES
1=AVERAGE VALUE OVER A BAND OF MOMENTA
W=A TRUE AND U TRUE
U=UPPER LIMIT

********** PN **********

	S	K.ENERGY	PLAB	CROSS SECTION	ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 251								
TOTAL	3.761	.125	.500	42.9000	5.6000		SHAPIRO PR138B,823-65	
	3.842	.168	.586	40.9000	5.9000		SHAPIRO PR138B,823-65	
	3.917	.208	.658	37.0000	2.0000		CARVALHO PR96,398-54	
	4.118	.315	.831	32.5000	4.0000		CARVALHO PR96,398-54	
	4.240	.380	.926	31.0000	1.5000	1.3000	CHEN PR103,211-56	
	4.259	.390	.940	32.0000	1.5000		CZELE,CCKY11C,539-56	
	4.447	.490	1.077	31.8000	2.9000		CZELE,CCKY11C,539-56	
	4.496	.516	1.111	35.7200	.2600		BUGG PR146,980-66	
	4.617	.580	1.194	30.7000	2.2000		CZELE,CCKY11C,539-56	
	4.636	.591	1.207	31.5000	1.9000	1.7000	CHEN PR103,211-56	$
	4.691	.620	1.244	31.1000	3.0000		CZELE,CCKY11C,539-56	
	4.747	.650	1.281	31.7000	1.8000		CZELE,CCKY11C,539-56	
	4.759	.656	1.289	38.6400	.2000		BUGG PR146,980-66	
	4.942	.754	1.408	39.4400	.1400		BUGG PR146,980-66	
	5.048	.810	1.475	28.4000	1.3000	1.1000	CHEN PR103,211-56	$
	5.235	.910	1.592	39.2000	3.1000		LAW NPS,600-59	$
	5.260	.923	1.607	39.7700	.1300		BUGG PR146,980-66	
	5.346	.969	1.660	40.0900	.1300		BUGG PR146,980-66	
	5.518	1.060	1.764	27.0000	2.0000	1.9000	CHEN PR103,211-56	$
	5.544	1.074	1.780	40.5590	.1040		BUGG PR146,980-66	
	5.674	1.143	1.858	41.2240	.0900		BUGG PR146,980-66	
	5.812	1.217	1.940	41.5300	.0900		BUGG PR146,980-66	
	5.833	1.228	1.952	41.4790	.0870		BUGG PR146,980-66	
	5.894	1.260	1.988	32.1000	1.5000	1.2000	CHEN PR103,211-56	
	6.049	1.343	2.079	41.9050	.0850		BUGG PR146,980-66	
	6.278	1.465	2.212	42.1740	.0920		BUGG PR146,980-66	
	6.308	1.480	2.229	33.6000	2.0000	1.7000	CHEN PR103,211-56	$
	6.396	1.527	2.280	42.5000	.0810		BUGG PR146,980-66	
	6.693	1.685	2.450	42.6840	.0770		BUGG PR146,980-66	
	6.943	1.818	2.592	42.8900	.0760		BUGG PR146,980-66	
	7.099	1.901	2.680	42.9610	.0740		BUGG PR146,980-66	
	7.141	1.924	2.704	42.9330	.0760		BUGG PR146,980-66	
	7.284	2.000	2.784	34.3000	2.3000	1.5000	CHEN PR103,211-56	$
	7.346	2.033	2.819	43.0170	.0760		BUGG PR146,980-66	
	7.414	2.069	2.857	43.0370	.0760		BUGG PR146,980-66	
	7.594	2.165	2.958	43.1130	.0760		BUGG PR146,980-66	
	7.659	2.199	2.994	43.1150	.0760		BUGG PR146,980-66	
	7.767	2.257	3.054	42.9790	.0760		BUGG PR146,980-66	
	7.867	2.310	3.110	43.2260	.0750		BUGG PR146,980-66	
	7.925	2.341	3.142	43.1180	.0740		BUGG PR146,980-66	
	8.156	2.464	3.270	37.1000	1.3000		DICDENS PRL9,32-62	$
	8.168	2.470	3.277	42.8120	.0720		BUGG PR146,980-66	
	8.215	2.495	3.303	42.9860	.0720		BUGG PR146,980-66	
	8.413	2.600	3.412	31.4000	2.2000	1.3000	CHEN PR103,211-56	$
	8.471	2.631	3.444	42.5820	.0700		BUGG PR146,980-66	
	8.656	2.730	3.546	42.5220	.0690		BUGG PR146,980-66	
	9.315	3.081	3.908	42.5250	.0670		BUGG PR146,980-66	
	9.551	3.206	4.037	42.4950	.0680		BUGG PR146,980-66	
	9.969	3.429	4.265	42.2760	.0690		BUGG PR146,980-66	
	10.419	3.668	4.510	36.8000	.9000		DICDENS PRL9,32-62	
	10.497	3.709	4.552	42.2550	.0690		BUGG PR146,980-66	
	11.260	4.116	4.966	42.0690	.0680		BUGG PR146,980-66	
	11.731	4.366	5.221	42.0170	.0530		BUGG PR146,980-66	
	12.296	4.667	5.526	42.0340	.0690		BUGG PR146,980-66	
	12.848	4.961	5.824	41.8210	.0700		BUGG PR146,980-66	
	12.859	4.967	5.830	37.0000	.8000		DICDENS PRL9,32-62	
	13.175	5.135	6.000	42.6000	1.7000		GALBR.PR138B,913-65	
	16.432	6.868	7.750	37.6000	1.6000		DICDENS PRL9,32-62	
	16.591	6.953	7.835	41.3280	.0800		BUGG PR146,980-66	
	16.899	7.117	8.000	41.8000	1.7000		GALBR.PR138B,913-65	
	20.450	9.006	9.900	36.0000	2.5000		ASHMORE PRL5,576-60	
	20.637	9.106	10.000	41.5000	1.7000		GALBR.PR138B,913-65	
	24.381	11.098	12.000	40.4000	1.7000		GALBR.PR138B,913-65	
	28.129	13.093	14.000	40.2000	1.7000		GALBR.PR138B,913-65	
	30.005	14.091	15.000	39.6800	.1700		DENISOV,PL36B,415-71	
	31.505	14.890	15.800	36.2000	2.0000		ASHMORE PRL5,576-60	
	31.880	15.089	16.000	40.2000	1.7000		GALBR.PR138B,913-65	
	35.633	17.086	18.000	39.2000	1.7000		GALBR.PR138B,913-65	
	39.386	19.084	20.000	38.7000	1.7000		GALBR.PR138B,913-65	
	39.386	19.084	20.000	39.0600	.1700		DENISOV,PL36B,415-71	
	43.141	21.082	22.000	38.2000	1.7000		GALBR.PR138B,913-65	
	47.271	23.280	24.200	35.5000	2.0000		ASHMORE PRL5,576-60	
	48.774	24.079	25.000	38.7900	.2000		DENISOV,PL36B,415-71	
	58.164	29.076	30.000	38.8400	.1500		DENISOV,PL36B,415-71	
	67.555	34.074	35.000	38.5800	.2400		DENISOV,PL36B,415-71	
	76.948	39.073	40.000	38.6500	.1500		DENISOV,PL36B,415-71	
	86.341	44.072	45.000	38.2800	.1500		DENISOV,PL36B,415-71	
	95.735	49.071	50.000	38.5000	.2300		DENISOV,PL36B,415-71	
	105.129	54.070	55.000	38.3500	.2200		DENISOV,PL36B,415-71	
	114.523	59.069	60.000	38.5100	.1900		DENISOV,PL36B,415-71	
THRESHOLD	3.53	0.00	0.00				80 DATA POINTS LISTED	

FIT OF SIGMA AGAINST PLAB GEV/C

15 DATA POINTS USED ABOVE 10.0 GEV/C , PROB. =1.00
K = 41.97 +- 1.02 N = -.02 +- .01

..... REACTION 252								
PN	5.395	.995	1.690	19.5000	2.5000		MURRAY NC49A,261-67	
	7.366	2.043	2.830	1.1000	.2500			
	8.881	2.850	3.670	.7300	.2700			
	16.899	7.117	8.000	.0600	.0300			
THRESHOLD	3.53	.00	.03				4 DATA POINTS LISTED	
..... REACTION 253								
PPPI-	5.619	1.114	1.825	2.5700	.1400		BRUNT,PR187,1856-69	
	6.102	1.371	2.110	2.6800	.1900		BRUNT,PR187,1856-69	
	8.936	2.879	3.700	3.2000	.6000		COHN,NPB21,505-70	
	8.936	2.879	3.700	1.8000	ERROR NOT GIVEN		BUGG BAPS12,470-67	E
THRESHOLD	4.06	.29	.79				4 DATA POINTS LISTED	

FOOTNOTES

$=DATA POINT NOT USED IN FITTING OR PLOTTING
E=ERROR IS ABOUT TEN PER CENT

PN

		S	K.ENERGY	PLAB	CROSS SECTION	ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 254									
PPPI-PIO		5.619	1.114	1.825	.1600	.0300		BRUNT,PR187,1856-69	
		6.102	1.371	2.110	.3500	.0400		BRUNT,PR187,1856-69	
		8.936	2.879	3.700	3.6000	.7000		COHN,NPB21,505-70	
		8.936	2.879	3.700	3.2000	ERROR NOT GIVEN		BUGG BAPS12,470-67	E
		14.997	6.105	6.980	1.1600	.1400		YEKUTIEL,PL34B,101-71	
	THRESHOLD	4.65	.60	1.22				5 DATA POINTS LISTED	
..... REACTION 255									
PNPI+PI-		5.619	1.114	1.825	.7700	.0700		BRUNT,PR187,1856-69	
		6.102	1.371	2.110	1.7500	.2000		BRUNT,PR187,1856-69	
		8.936	2.879	3.700	5.9000	ERROR NOT GIVEN		BUGG BAPS12,470-67	E
		8.936	2.879	3.700	6.3000	1.0000		COHN,NPB21,505-70	
		14.997	6.105	6.980	3.7200	.2200		YEKUTIEL,PL34B,101-71	
	THRESHOLD	4.66	.60	1.22				5 DATA POINTS LISTED	
..... REACTION 256									
N*++1236NPI-		8.936	2.879	3.700	1.2000	ERROR NOT GIVEN		BUGG BAPS12,470-67	E
		8.936	2.879	3.700	2.5200	.4000		COHN,NPB21,505-70	
	THRESHOLD	5.36	.98	1.67				2 DATA POINTS LISTED	
..... REACTION 257									
N*++1236N*-1236		8.936	2.879	3.700	1.5500	.2500		COHN,NPB21,505-70	
		14.997	6.105	6.980	1.1000	.2000		YEKUTIE. PRL25,184-70	
	THRESHOLD	6.11	1.38	2.11				2 DATA POINTS LISTED	
..... REACTION 258									
N*+1236PPI-=PPPI-PIO		8.936	2.879	3.700	.7200	.1400		COHN,NPB21,505-70	
	THRESHOLD	5.35	.97	1.67					
..... REACTION 259									
N*+1236PPI-=PNPI+PI-		8.936	2.879	3.700	.6300	.0600		COHN,NPB21,505-70	
	THRESHOLD	5.35	.97	1.66					
..... REACTION 260									
N*+1236N*01236		8.936	2.879	3.700	1.5000	ERROR NOT GIVEN		COHN,NPB21,505-70	
	THRESHOLD	6.11	1.38	2.11					
..... REACTION 261									
N*+1236N*01236=N*+1236PPI-		8.936	2.879	3.700	.3500	.1000		COHN,NPB21,505-70	
	THRESHOLD	6.11	1.38	2.11					
..... REACTION 262									
N*-1236PPI+		8.936	2.879	3.700	1.8000	ERROR NOT GIVEN		BUGG BAPS12,470-67	E
	THRESHOLD	5.35	.97	1.67					
..... REACTION 263									
N*01236P=PPPI-		8.936	2.879	3.700	.8000	.1500		COHN,NPB21,505-70	
	THRESHOLD	4.73	.64	1.27					
..... REACTION 264									
N*01236PPIO=PPPI-PIO		8.936	2.879	3.700	1.2600	.2400		COHN,NPB21,505-70	
	THRESHOLD	5.35	.97	1.67					
..... REACTION 265									
N*01236NPI+=PNPI+PI-		8.936	2.879	3.700	.9400	.1500		COHN,NPB21,505-70	
	THRESHOLD	5.36	.98	1.67					

FOOTNOTES

E=ERROR IS ABOUT TEN PER CENT

PDE

		S	K.ENERGY	PLAB	CROSS SECTION	ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 266									
TOTAL		9.102	.315	.831	56.8000	5.0000		CARVALHO PR96,398-54	
		9.346	.380	.926	53.2000	2.1000	1.8000	CHEN PR1C3,211-56	
		9.383	.390	.940	58.9000	1.6000		DZHELE,DOKY110,539-56	
		9.759	.490	1.077	61.1000	3.0000		DZHELE,DOKY110,539-56	
		9.856	.516	1.111	67.2090	.0900		BUGG PR146,980-66	
		10.097	.580	1.194	66.3000	2.3000		DZHELE,DOKY110,539-56	
		10.136	.591	1.207	66.8000	2.4000	2.0000	CHEN PR1C3,211-56	
		10.246	.620	1.244	69.7000	3.1000		DZHELE,DOKY110,539-56	
		10.357	.650	1.281	72.3000	1.9000		DZHELE,DOKY110,539-56	
		10.382	.656	1.289	76.9050	.1100		BUGG PR146,980-66	
		10.748	.754	1.408	80.4900	.0570		BUGG PR146,980-66	
		10.959	.810	1.475	76.0000	2.1000	1.6000	CHEN PR1C3,211-56	
		11.333	.910	1.592	79.1000	1.0000		LAW NP9,600-59	
		11.382	.923	1.607	82.4720	.0630		BUGG PR146,980-66	
		11.554	.969	1.660	82.8890	.0630		BUGG PR146,980-66	
		11.896	1.060	1.764	78.3000	2.6000	2.2000	CHEN PR1C3,211-56	$
		11.949	1.074	1.780	83.3770	.0520		BUGG PR146,980-66	
		12.209	1.143	1.858	84.0390	.0470		BUGG PR146,980-66	
		12.485	1.217	1.940	84.2600	.0460		BUGG PR146,980-66	
		12.526	1.228	1.952	84.2800	.0470		BUGG PR146,980-66	
		12.648	1.260	1.988	80.3000	2.2000	1.5000	CHEN PR1C3,211-56	$
		12.958	1.343	2.079	84.5260	.0470		BUGG PR146,980-66	
		13.415	1.465	2.212	84.5240	.0470		BUGG PR146,980-66	
		13.474	1.480	2.229	80.8000	3.3000	2.1000	CHEN PR1C3,211-56	$
		13.650	1.527	2.280	84.6240	.0470		BUGG PR146,980-66	
		14.243	1.685	2.450	84.2390	.0470		BUGG PR146,980-66	
		14.742	1.818	2.592	84.2120	.0470		BUGG PR146,980-66	
		15.053	1.901	2.680	84.0850	.0440		BUGG PR146,980-66	
		15.139	1.924	2.704	83.9120	.0470		BUGG PR146,980-66	
		15.423	2.000	2.784	78.7000	3.5000	2.1000	CHEN PR1C3,211-56	$
		15.547	2.033	2.819	83.8460	.0470		BUGG PR146,980-66	
		15.682	2.069	2.857	83.7900	.0470		BUGG PR146,980-66	
		16.043	2.165	2.958	83.6020	.0470		BUGG PR146,980-66	
		16.172	2.199	2.994	83.4520	.0470		BUGG PR146,980-66	
		16.193	2.205	3.000	82.8700	.0200		RILEY,PR1,2481-70	
		16.193	2.205	3.000	81.7800	.0700		RILEY,PR1,2481-70	
		16.387	2.257	3.054	83.2890	.0470		BUGG PR146,980-66	
		16.588	2.310	3.110	83.3280	.0470		BUGG PR146,980-66	
		16.703	2.341	3.142	83.1660	.0470		BUGG PR146,980-66	
		17.189	2.470	3.277	82.4890	.0470		BUGG PR146,980-66	
		17.283	2.495	3.303	82.7300	.0470		BUGG PR146,980-66	
		17.677	2.600	3.412	74.2000	4.6000	2.0000	CHEN PR1C3,211-56	$
		17.793	2.631	3.444	81.9600	.0470		BUGG PR146,980-66	
		18.162	2.730	3.546	81.7100	.0470		BUGG PR146,980-66	
		19.479	3.081	3.908	81.1070	.0330		BUGG PR146,980-66	
		19.950	3.206	4.037	80.9300	.0470		BUGG PR146,980-66	
		20.785	3.429	4.265	80.4170	.0470		BUGG PR146,980-66	
		21.838	3.709	4.552	80.1250	.0470		BUGG PR146,980-66	
		23.362	4.116	4.966	79.6320	.0470		BUGG PR146,980-66	
		24.303	4.366	5.221	79.5780	.0370		BUGG PR146,980-66	
		25.430	4.667	5.526	79.3160	.0470		BUGG PR146,980-66	
		26.533	4.961	5.824	79.0910	.0470		BUGG PR146,980-66	
		27.185	5.135	6.000	77.4000	1.3000		GALBR.PR138B,913-65	
		34.007	6.953	7.835	77.8580	.0520		BUGG PR146,980-66	
		34.621	7.117	8.000	76.2000	1.2000		GALBR.PR138B,913-65	
		42.084	9.106	10.000	75.8000	1.3000		GALBR.PR138B,913-65	
		49.561	11.098	12.000	74.4000	1.3000		GALBR.PR138B,913-65	
		57.046	13.093	14.000	74.0000	1.3000		GALBR.PR138B,913-65	
		60.790	14.091	15.000	72.2500	.2200		DENISOV,PL36B,415-71	
		64.535	15.089	16.000	73.7000	1.3000		GALBR.PR138B,913-65	
		72.027	17.086	18.000	72.8000	1.3000		GALBR.PR138B,913-65	
		76.899	18.385	19.300	74.1000	.7000		BELLETTI. PL19,341-65	
		79.522	19.084	20.000	72.1000	1.3000		GALBR.PR138B,913-65	
		79.522	19.084	20.000	74.4800	.2200		DENISOV,PL36B,415-71	
		87.019	21.082	22.000	71.6000	1.3000		GALBR.PR138B,913-65	
		98.266	24.079	25.000	74.0000	.2200		DENISOV,PL36B,415-71	
		117.015	29.076	30.000	73.8500	.2200		DENISOV,PL36B,415-71	
		135.767	34.074	35.000	73.5300	.2200		DENISOV,PL36B,415-71	
		154.521	39.073	40.000	73.6000	.2200		DENISOV,PL36B,415-71	
		173.276	44.072	45.000	73.2200	.2200		DENISOV,PL36B,415-71	
		192.033	49.071	50.000	73.4300	.2200		DENISOV,PL36B,415-71	
		210.790	54.070	55.000	73.2600	.2200		DENISOV,PL36B,415-71	
		229.547	59.069	60.000	73.4200	.2200		DENISOV,PL36B,415-71	
	THRESHOLD	7.92	0.00	0.00				73 DATA POINTS LISTED	

FIT OF SIGMA AGAINST PLAB GEV/C

18 DATA POINTS USED ABOVE 10.0 GEV/C , PROB. = .62

K = 73.11 +- 1.12 N =+ .00 +- .00

..... REACTION 267									
PDE		76.899	18.385	19.300	9.2000	.3000		BELLETTI. PL19,341-65	
	THRESHOLD	7.92	0.00	0.00					
..... REACTION 268									
INELASTIC		76.899	18.385	19.300	64.9000	.8000		BELLETTI. PL19,341-65	
	THRESHOLD	8.70	.21	.66					
..... REACTION 269									
DEPPI+PI-		12.099	1.114	1.825	.1800	.0200		BRUNT,PR187,1856-69	
		13.064	1.371	2.110	.1700	.0200		BRUNT,PR187,1856-69	
	THRESHOLD	9.57	.44	1.01				2 DATA POINTS LISTED	
..... REACTION 270									
DE(PPIO/NPI+)PI+PI-		12.099	1.114	1.825	3.0000 MICROB	2.0000		BRUNT PL26B,317-68	
		13.064	1.371	2.110	.0250	.0050		BRUNT PL26B,317-68	
	THRESHOLD	10.42	.67	1.30				2 DATA POINTS LISTED	
..... REACTION 271									
PPPPI-		30.899	6.124	7.000	1.0100	.1300		SHAPIRA PRL21,1835-68	P
	THRESHOLD	8.73	.21	.67					

FOOTNOTES

$=DATA POINT NOT USED IN FITTING OR PLOTTING
P=PROTON IS A SPECTATOR

PHE

		S	K.ENERGY	PLAB	CROSS SECTION	ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 272 ..... TOTAL		20.946	.049	.306	391.0000	ERROR NOT GIVEN		DAVIES NPA97,241-67	
		20.978	.053	.320	272.7000	7.3000		CAIRNS NP60,369-64	
		21.574	.136	.523	117.0000	.8000		PALMIERI NP55,253-64	
		21.667	.149	.549	112.4000	.8000		PALMIERI NP55,253-64	
		25.134	.630	1.257	150.0000	13.0000		KOZODA. JETP11,511-60	
		27.582	.970	1.662	116.0000	17.0000		RIDDIF.PRSA257,316-60	
		27.796	1.000	1.696	152.0000	8.0000		IGO PRL18,1200-67	
	THRESHOLD	20.60	0.00	0.00				7 DATA POINTS LISTED	
..... REACTION 273 ..... PHE		20.978	.053	.320	165.0000	5.8000		CAIRNS NP60,369-64	
		25.134	.630	1.257	24.0000	5.0000		KOZODA. JETP11,511-60	
		27.582	.970	1.662	23.0000	31.0000		RIDDIF.PRSA257,316-60	
		27.796	1.000	1.696	41.3000	6.0000		IGO PRL18,1200-67	
	THRESHOLD	20.60	0.00	0.00				4 DATA POINTS LISTED	
..... REACTION 274 ..... INELASTIC		20.978	.053	.320	107.7000	4.4000		CAIRNS NP60,369-64	
		25.134	.630	1.257	126.0000	14.0000		KOZODA. JETP11,511-60	
		27.582	.970	1.662	93.0000	13.0000		RIDDIF.PRSA257,316-60	
		27.796	1.000	1.696	111.0000	10.0000		IGO PRL18,1200-67	
	THRESHOLD	17.36	0.00	0.00				4 DATA POINTS LISTED	

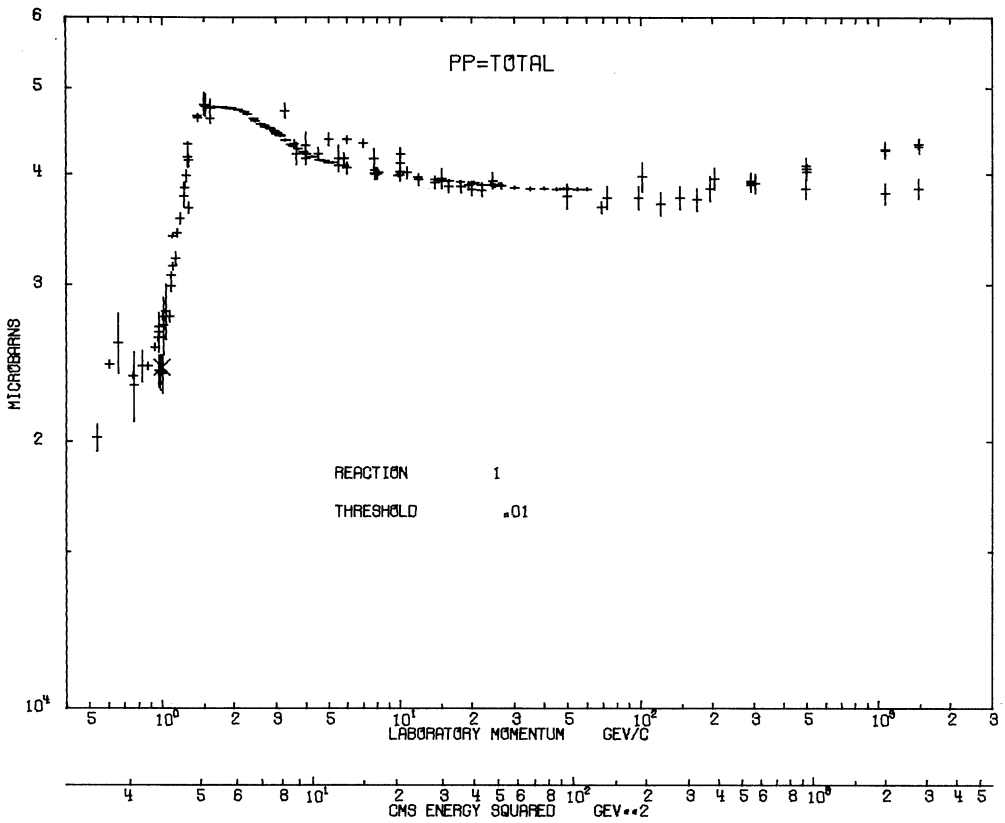
PLOTS OF CROSS SECTIONS VERSUS INCIDENT LABORATORY MOMENTUM

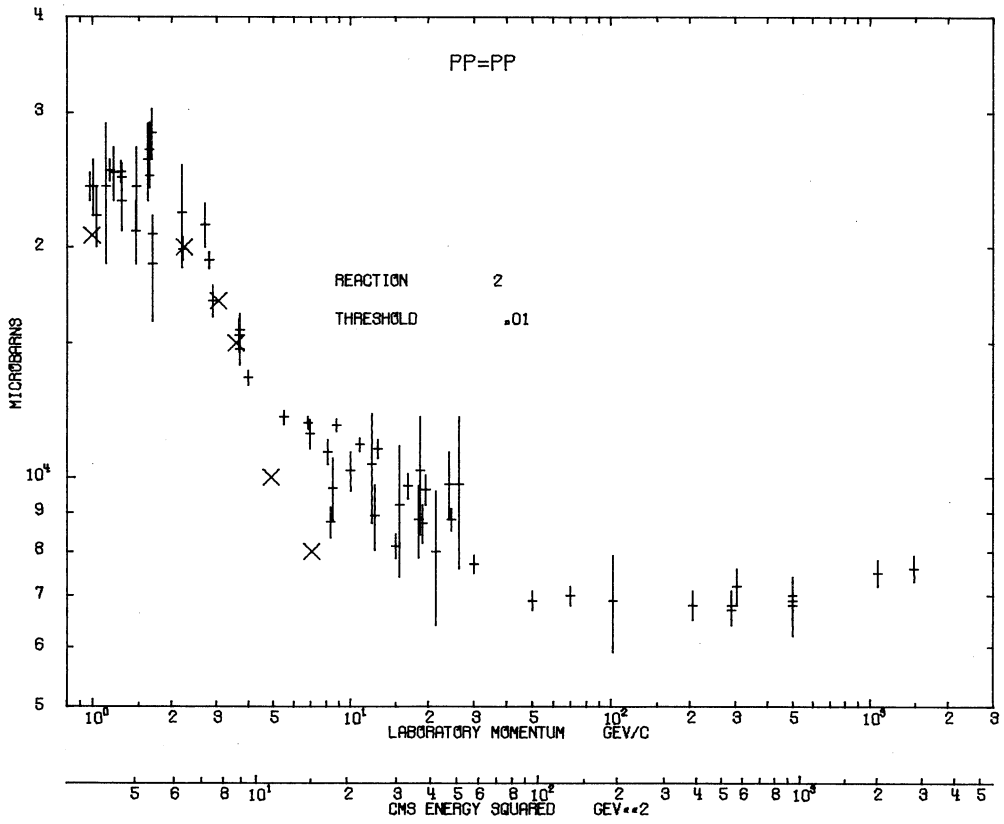
DESCRIPTION

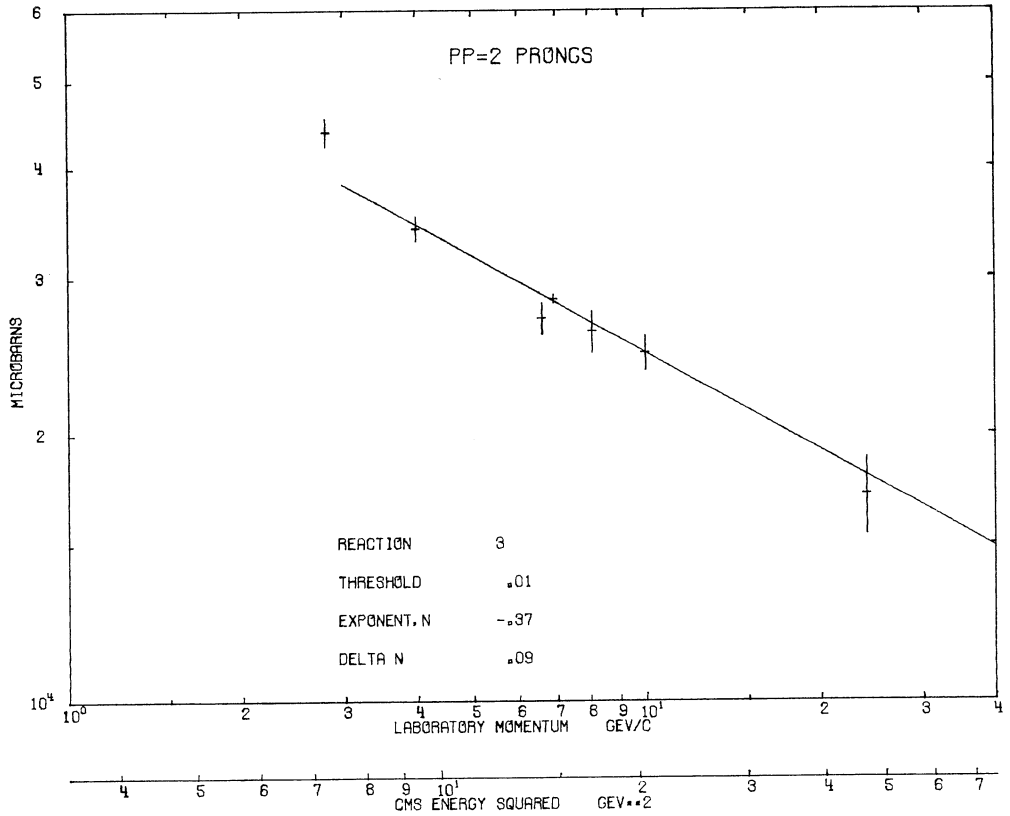
For those reactions having a sufficient number of data points, a graph is given of the cross section, σ, versus the momentum, p_{LAB} on log-log scales.

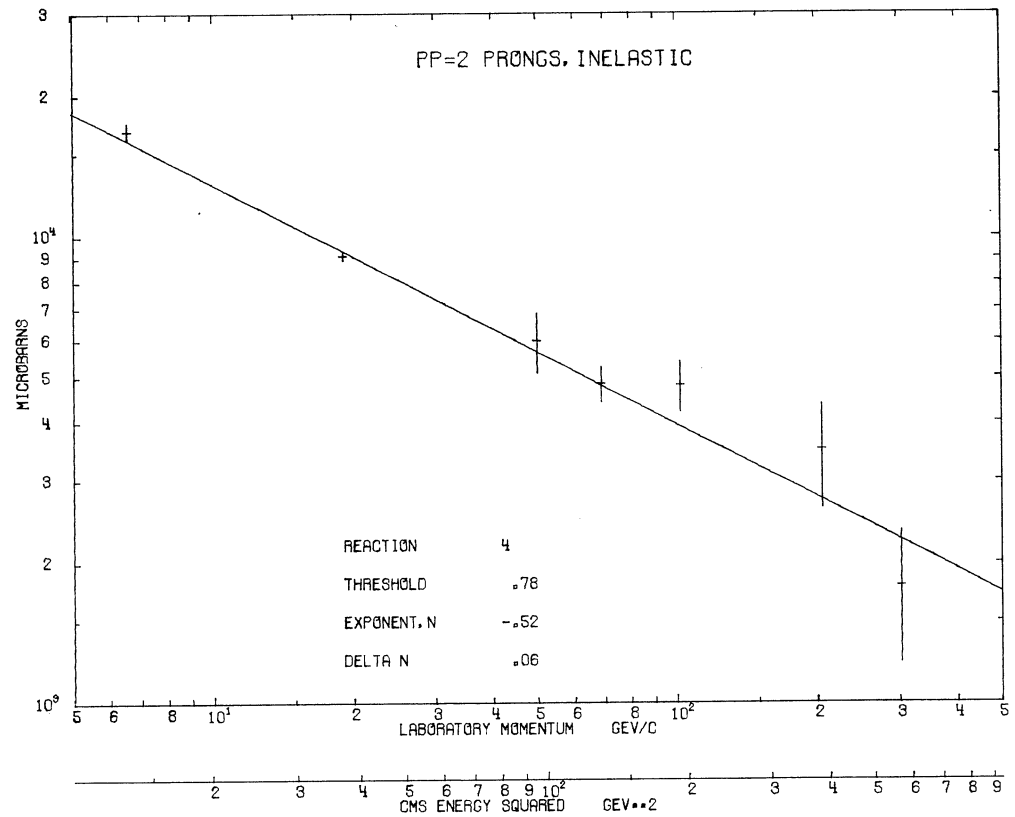
Errors are shown whenever they have been given. If no errors have been published, the data point is given as a cross, X. If only an upper limit is quoted, this is shown as a short horizontal bar together with a line extending to the bottom of the graph.

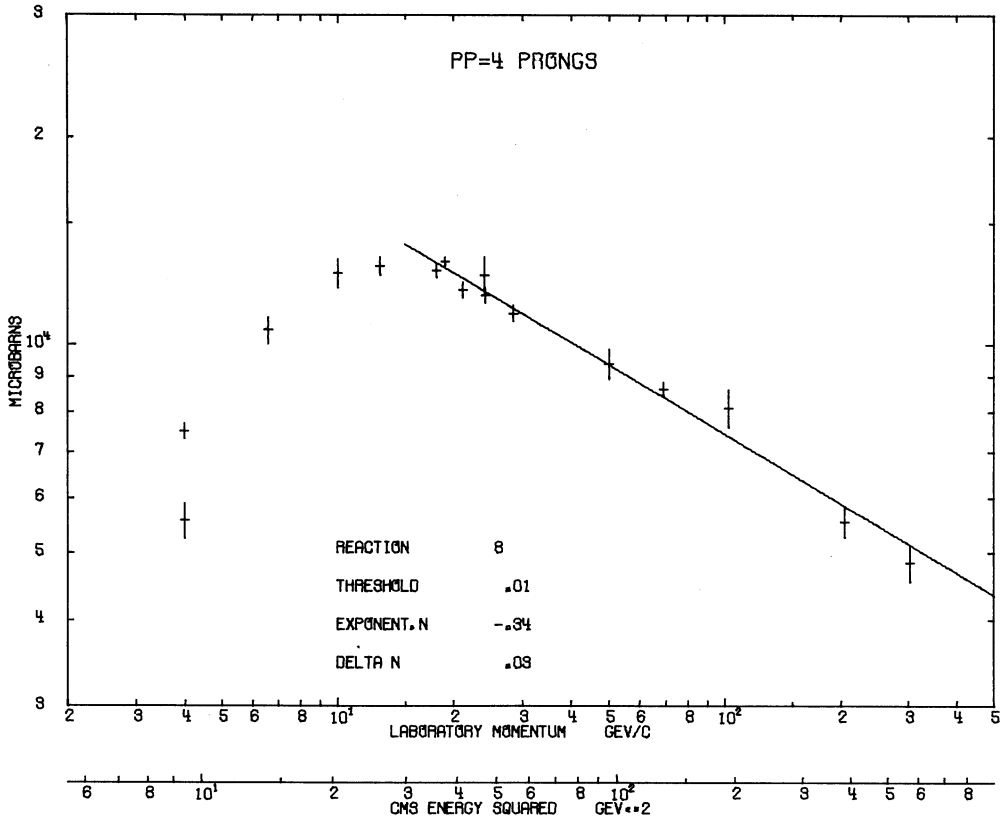
Lines drawn on the graph are fits to the high energy data of the formula (1), i.e. σ = constant. $(p_{LAB})^{+n}$, and the value of the exponent, n and its error are printed on the graph.

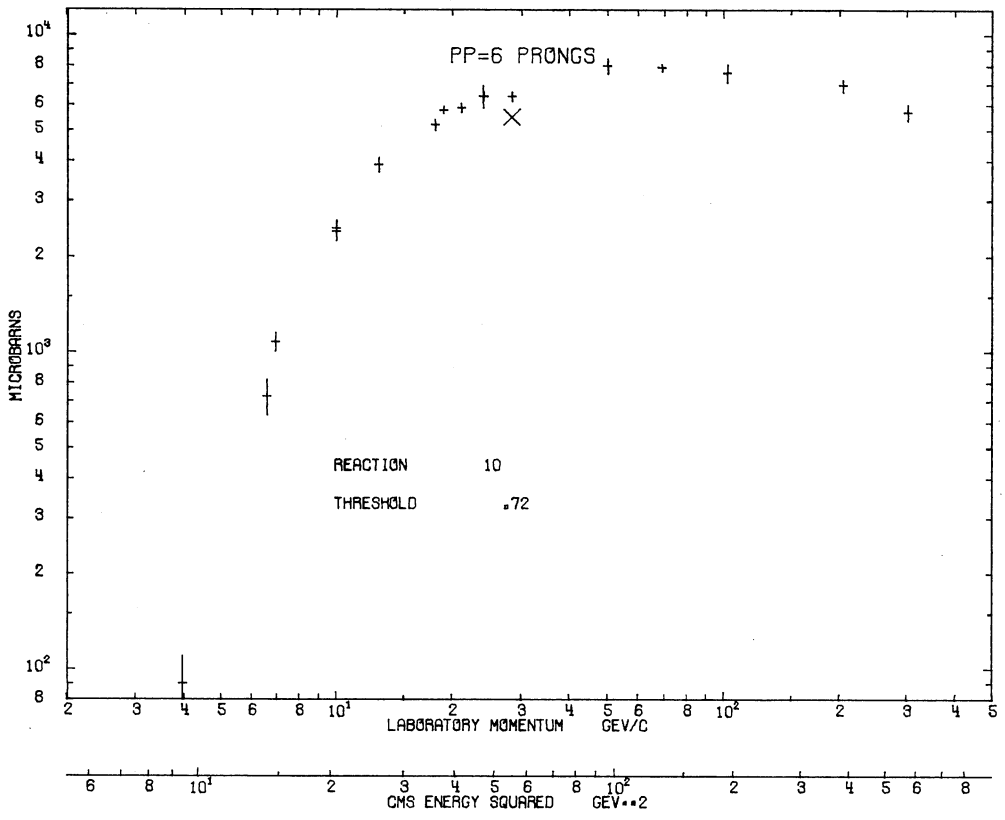

PP=TOTAL
REACTION 1
THRESHOLD .01
MICROBARNS
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

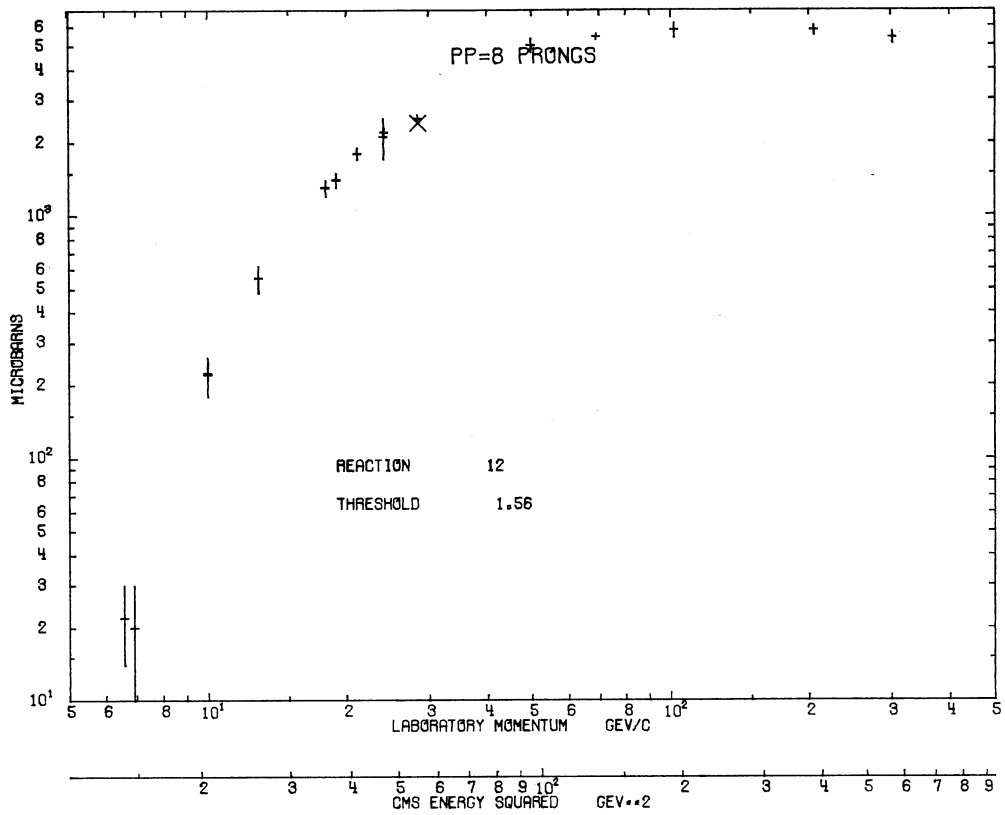

PP=PP
REACTION 2
THRESHOLD .01
MICROBARNS
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

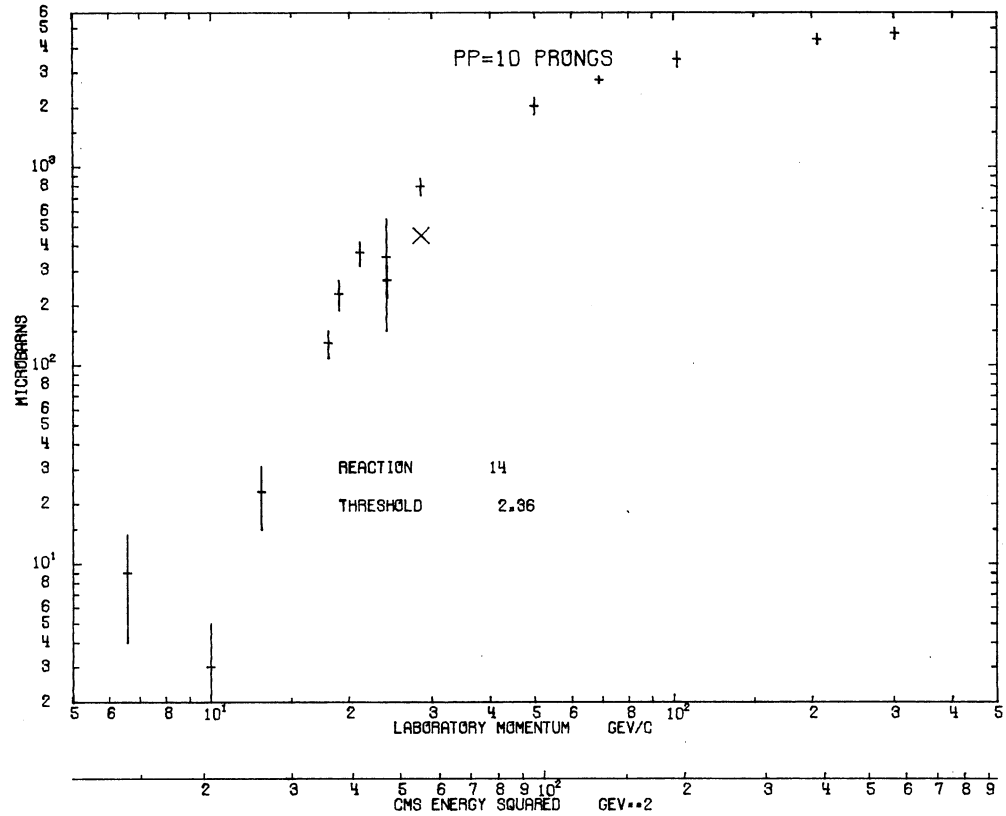

PP=2 PRØNGS
MICROBARNS
REACTION 3
THRESHOLD .01
EXPONENT.N -.37
DELTA N .09
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

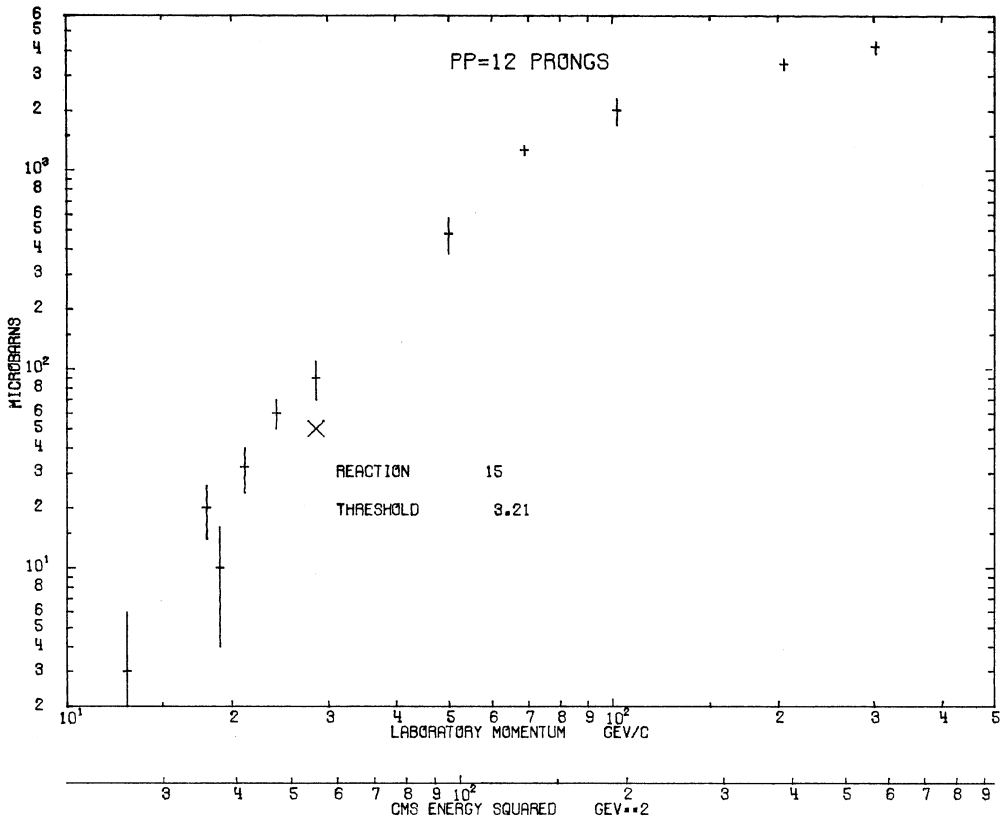

PP=2 PRØNGS, INELASTIC
MICROBARNS
REACTION 4
THRESHOLD .78
EXPONENT.N -.52
DELTA N .06
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

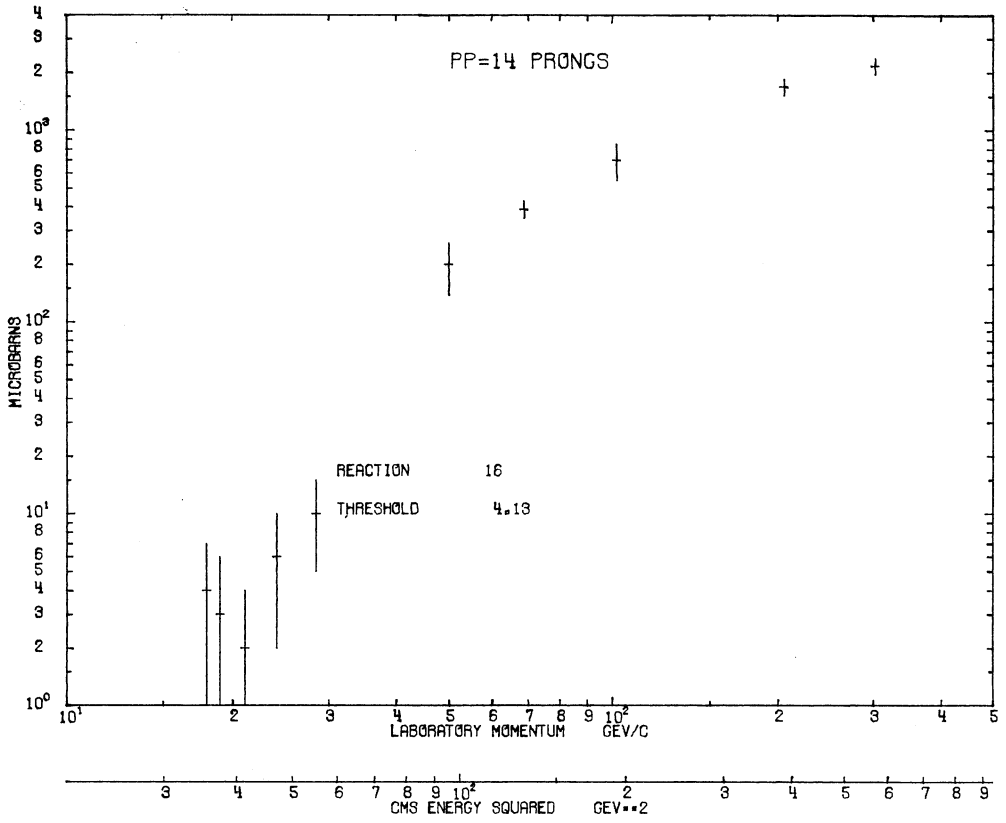

PP=4 PRONGS
MICROBARNS
REACTION 8
THRESHOLD .01
EXPONENT.N -.34
DELTA N .03
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

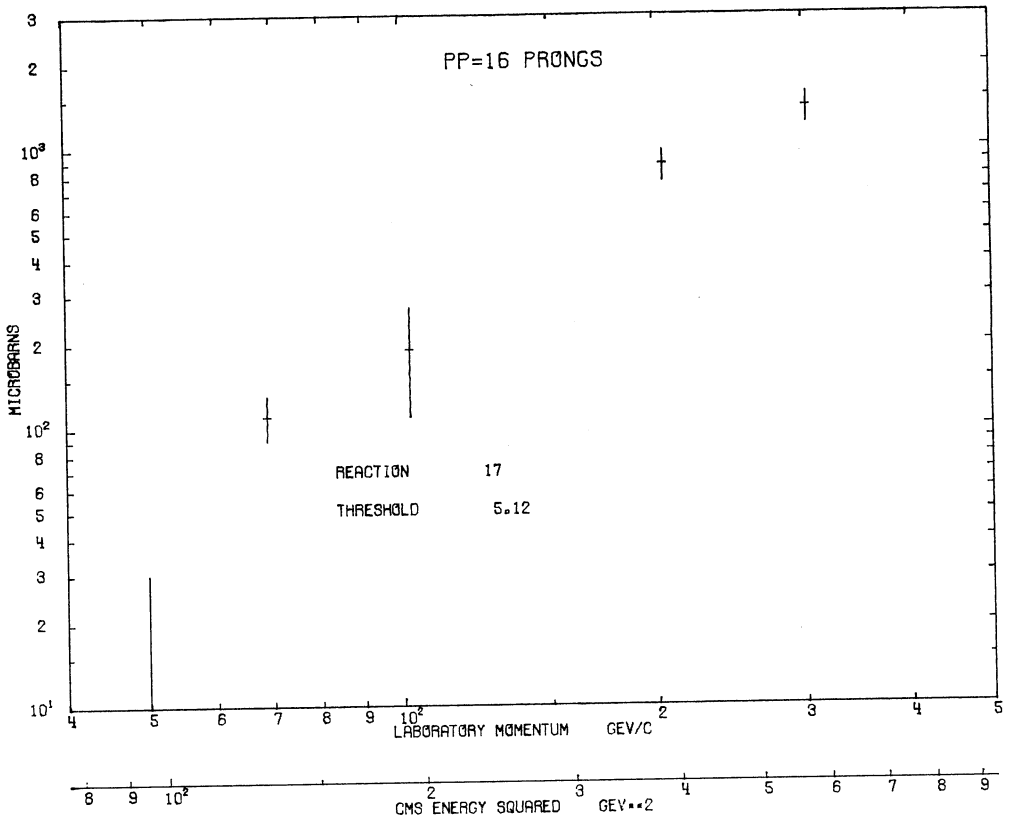

PP=6 PRONGS
MICROBARNS
REACTION 10
THRESHOLD .72
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

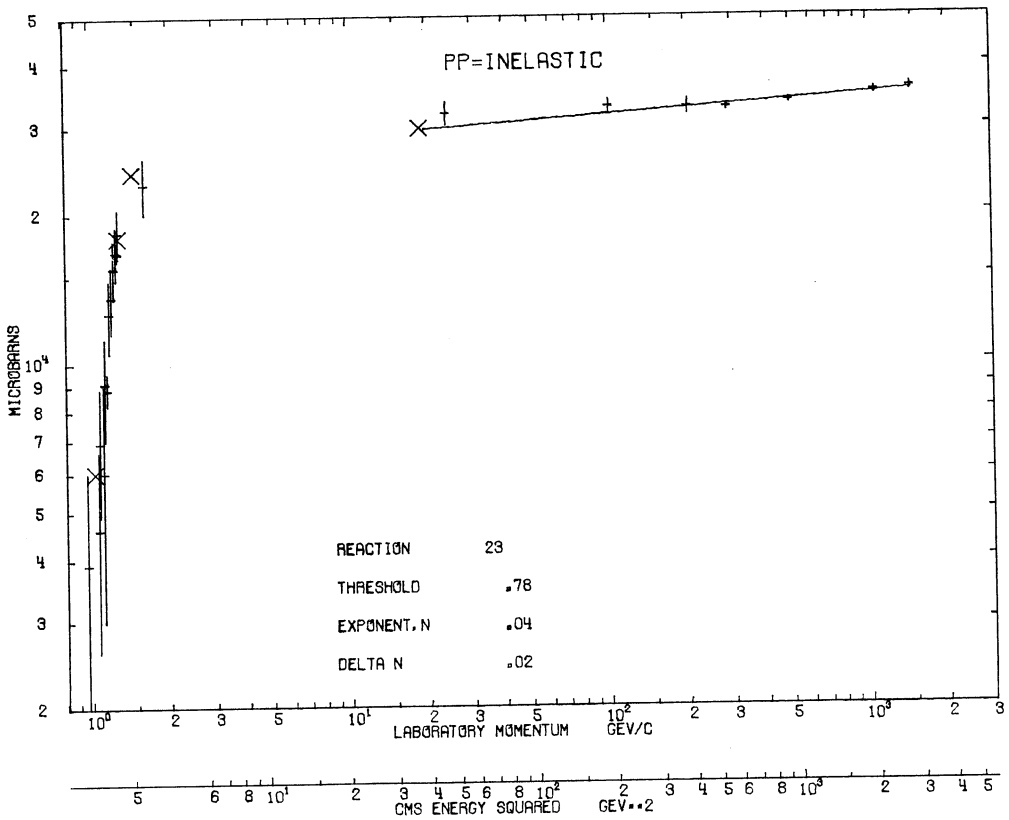

PP=8 PRONGS
REACTION 12
THRESHOLD 1.56
MICROBARNS
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

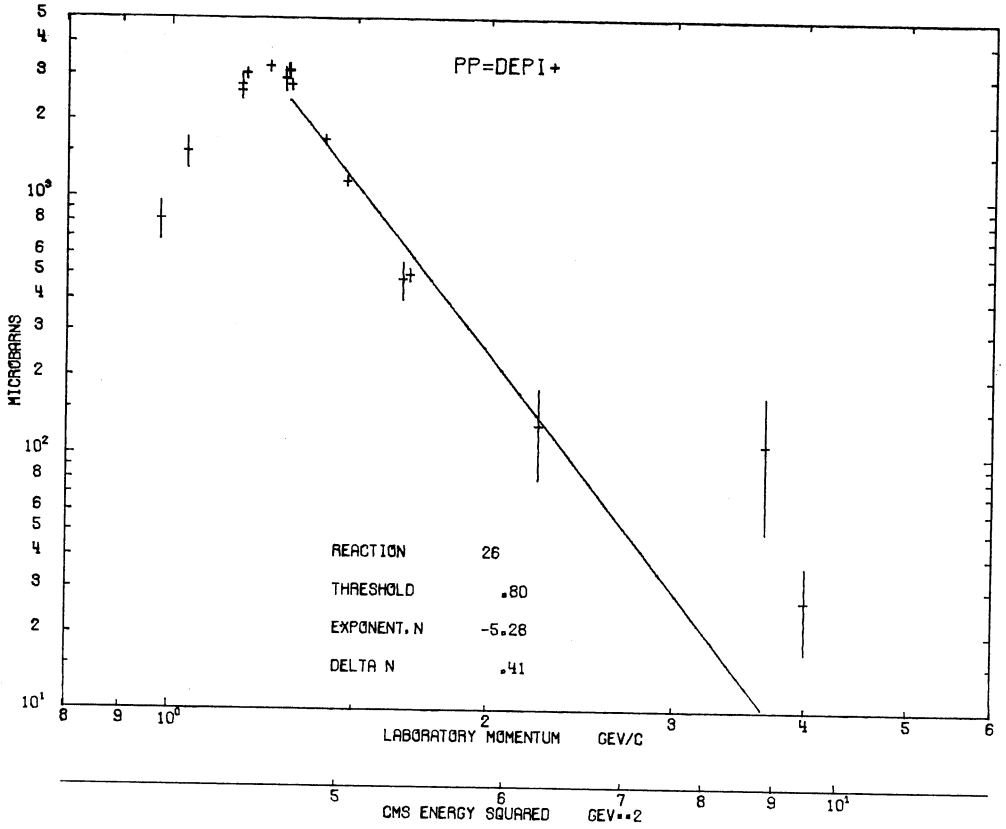

PP=10 PRONGS
REACTION 14
THRESHOLD 2.36
MICROBARNS
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

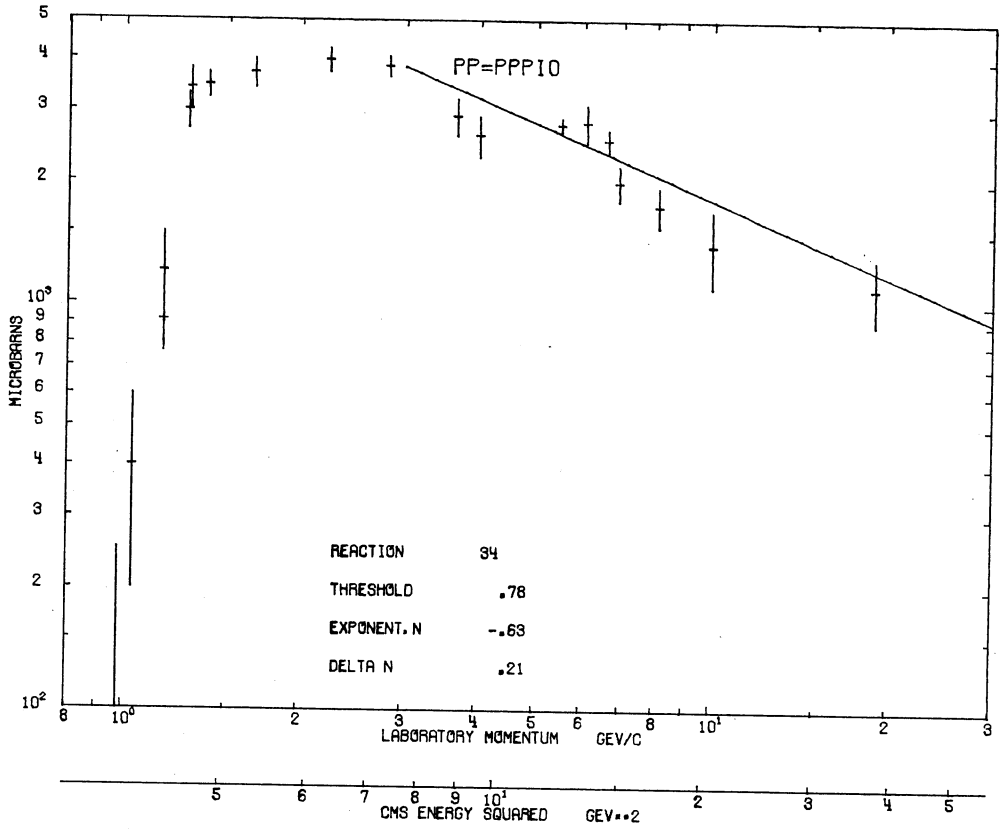

PP=12 PRONGS
REACTION 15
THRESHOLD 3.21
MICROBARNS
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

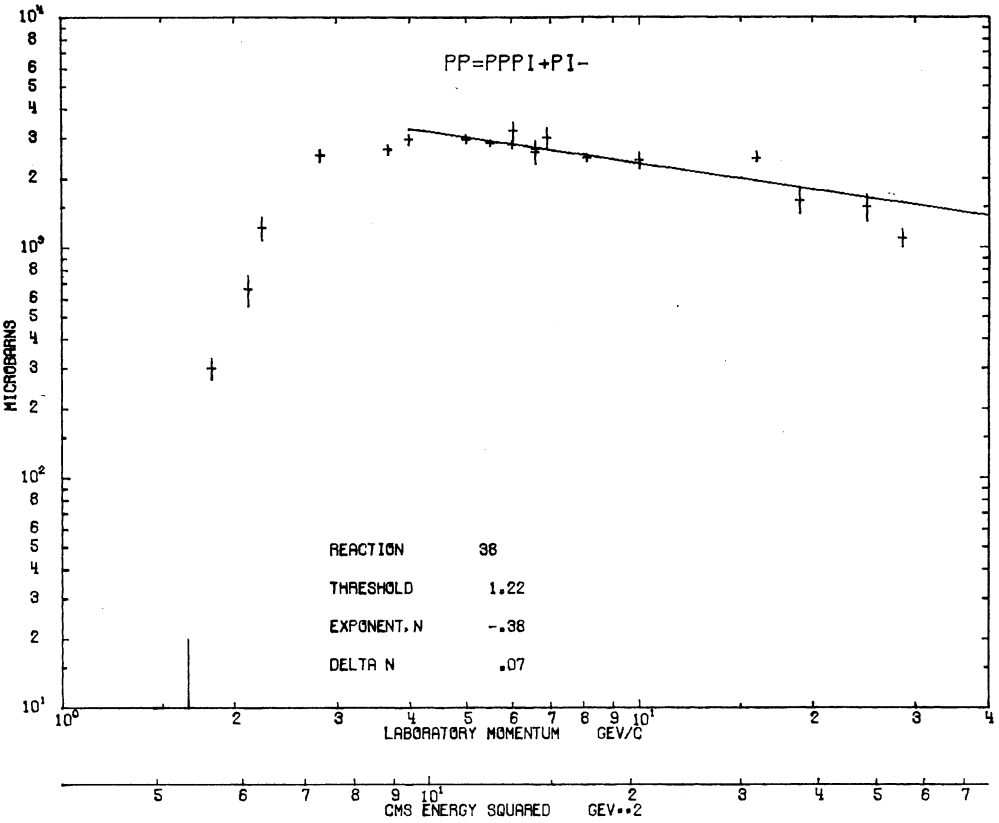

PP=14 PRONGS
REACTION 16
THRESHOLD 4.13
MICROBARNS
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

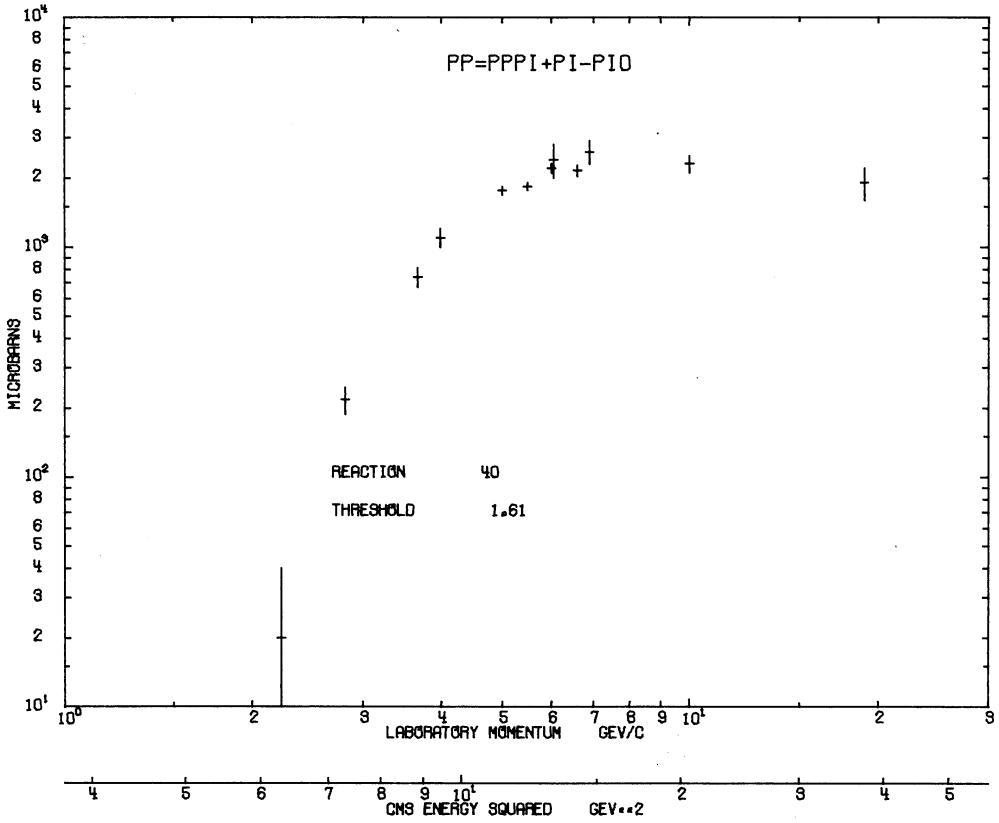

PP=16 PRONGS
MICROBARNS
REACTION 17
THRESHOLD 5.12
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

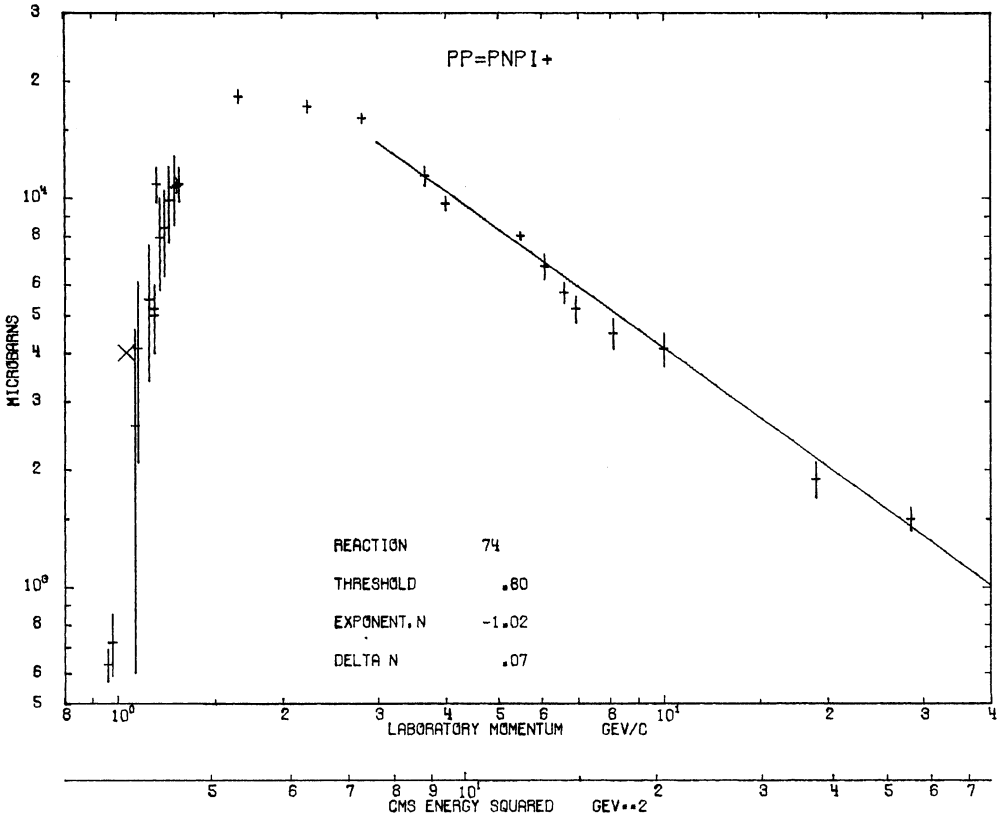

PP=INELASTIC
MICROBARNS
REACTION 23
THRESHOLD .78
EXPONENT, N .04
DELTA N .02
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

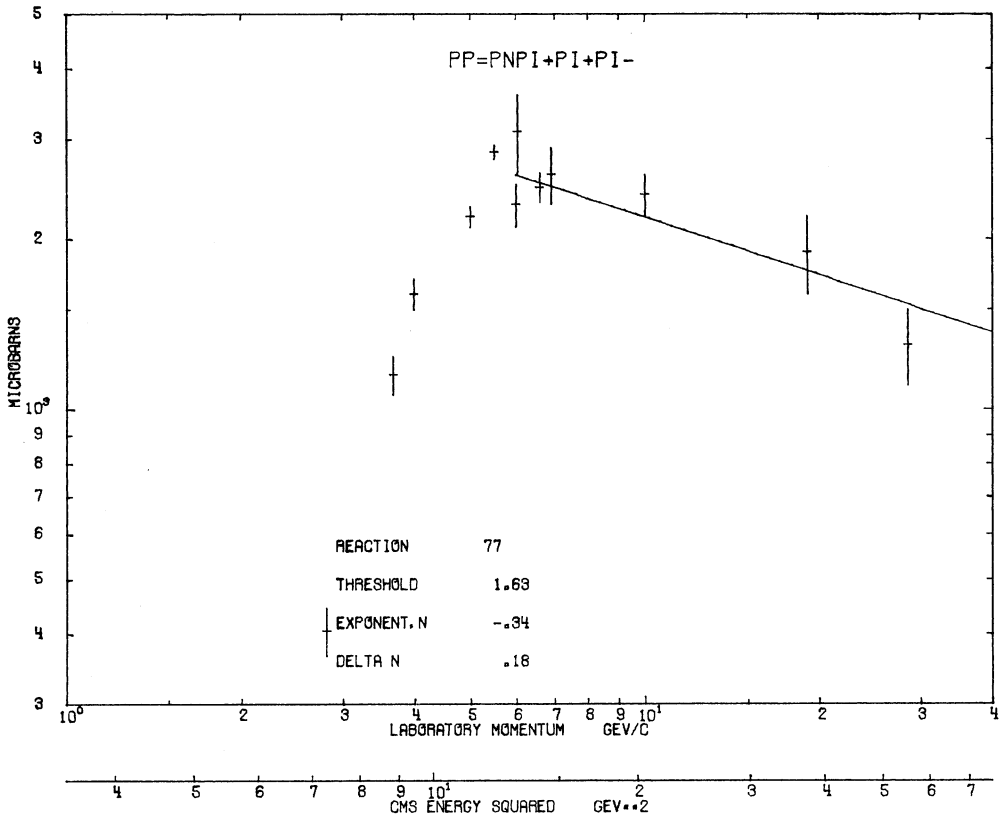

PP=DEPI+
MICROBARNS
REACTION 26
THRESHOLD .80
EXPONENT. N -5.28
DELTA N .41
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

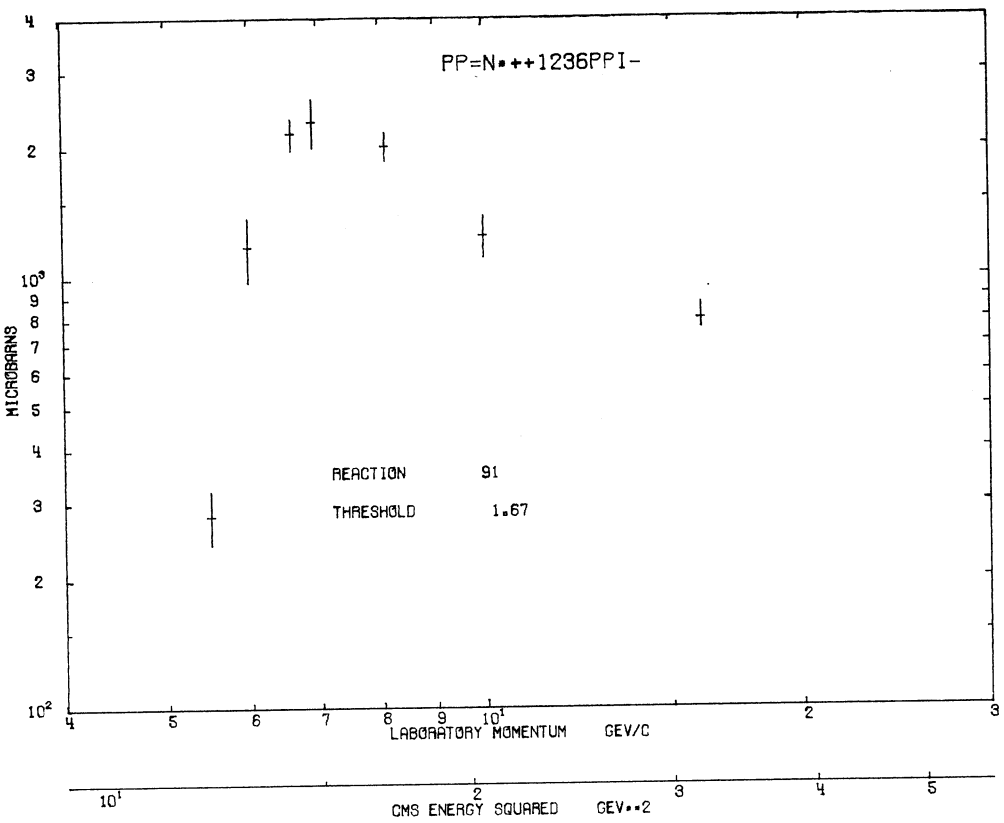

PP=PPPIO
MICROBARNS
REACTION 34
THRESHOLD .78
EXPONENT. N -.63
DELTA N .21
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

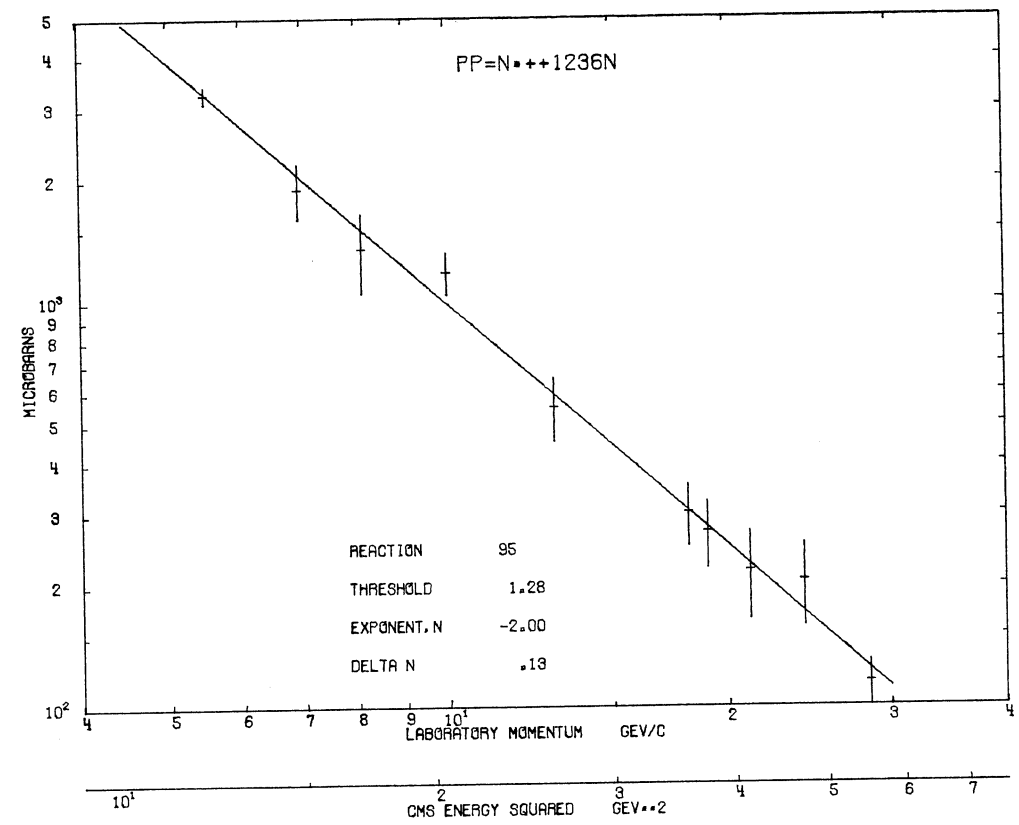

PP=PPPI+PI-
MICROBARNS
REACTION 38
THRESHOLD 1.22
EXPONENT, N -.38
DELTA N .07
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

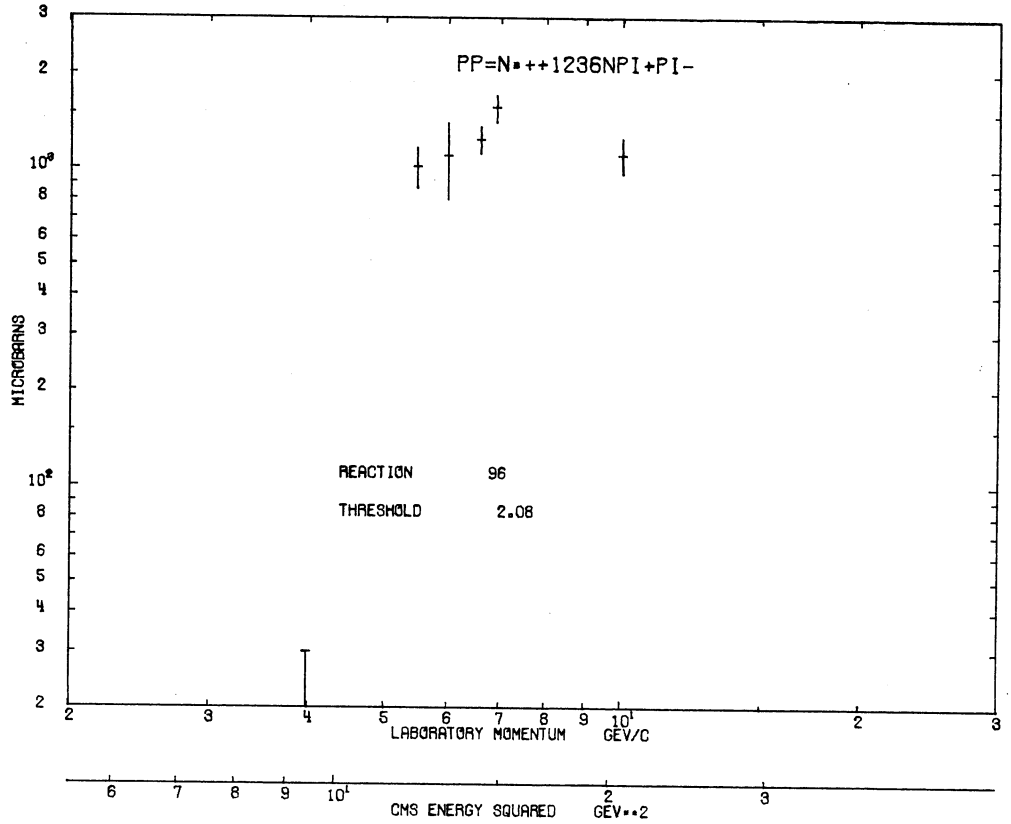

PP=PPPI+PI-PIO
MICROBARNS
REACTION 40
THRESHOLD 1.61
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

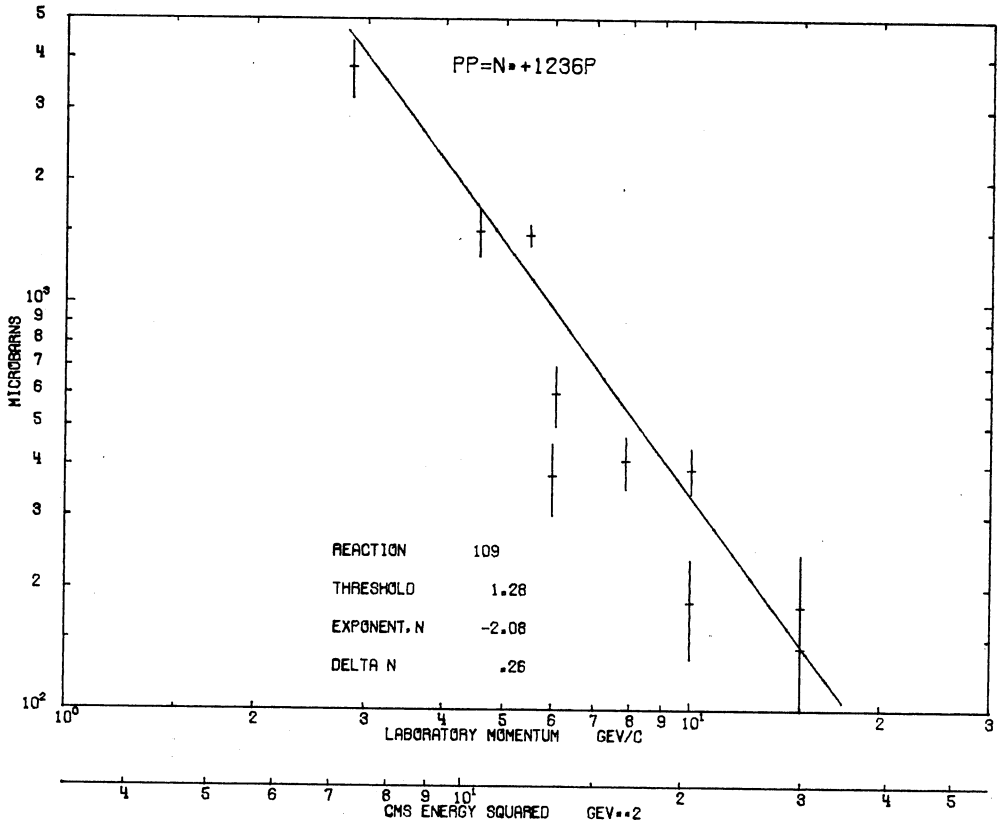

PP=PNPI+
MICROBARNS
REACTION 74
THRESHOLD .80
EXPONENT. N -1.02
DELTA N .07
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

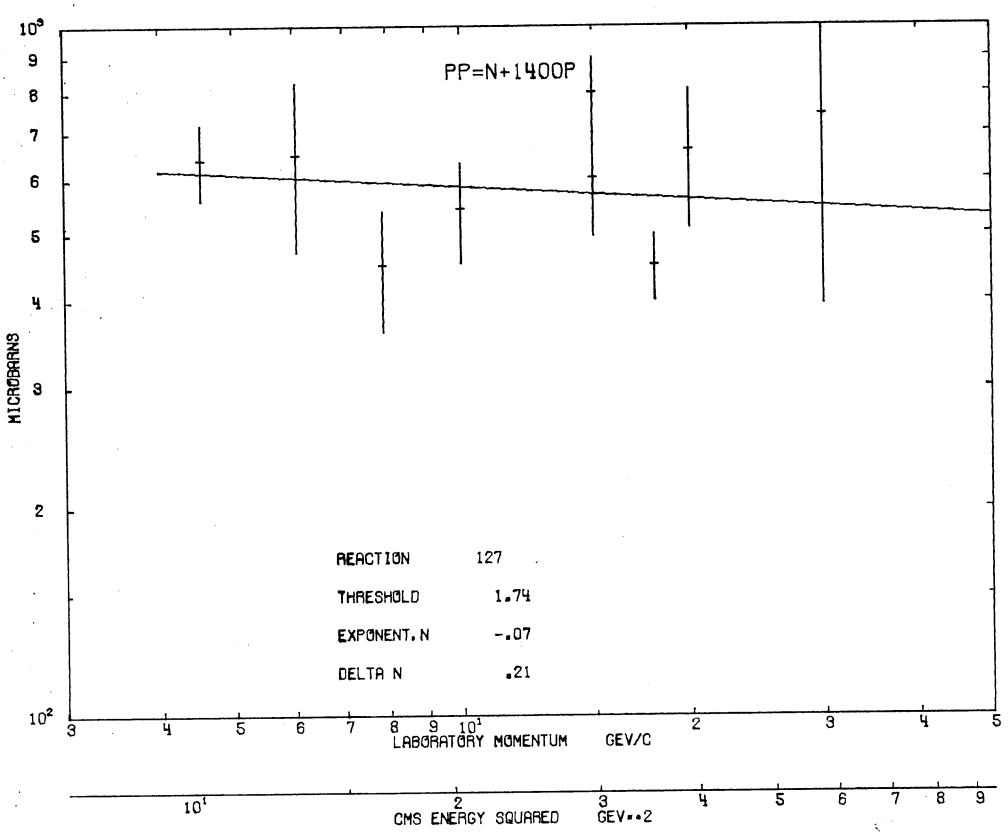

PP=PNPI+PI+PI-
MICROBARNS
REACTION 77
THRESHOLD 1.63
EXPONENT. N -.34
DELTA N .18
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

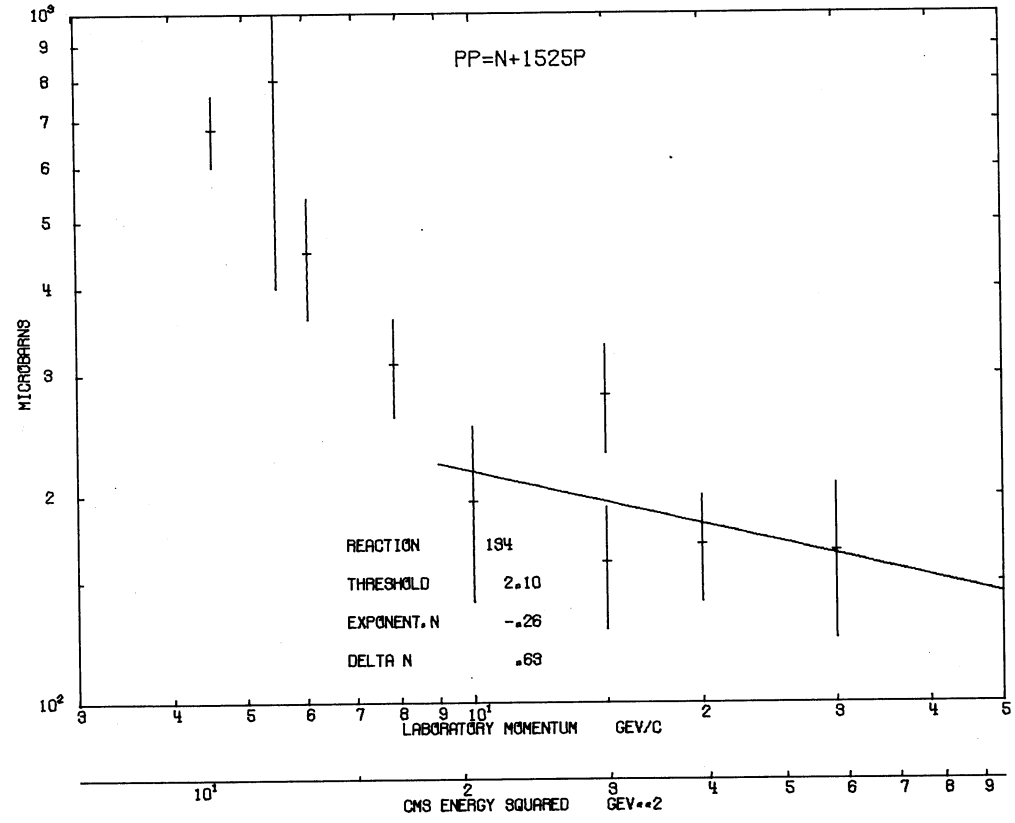

PP=N*++1236PPI-
MICROBARNS
REACTION 91
THRESHOLD 1.67
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

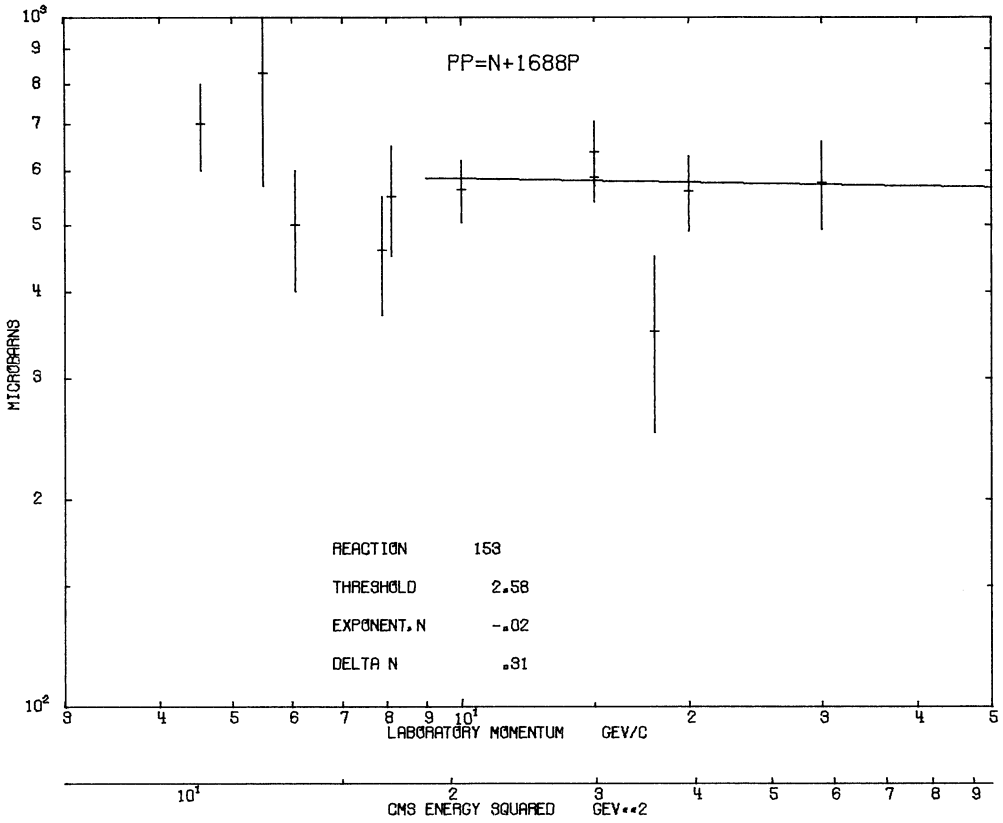

PP=N*++1236N
MICROBARNS
REACTION 95
THRESHOLD 1.28
EXPONENT.N -2.00
DELTA N .13
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

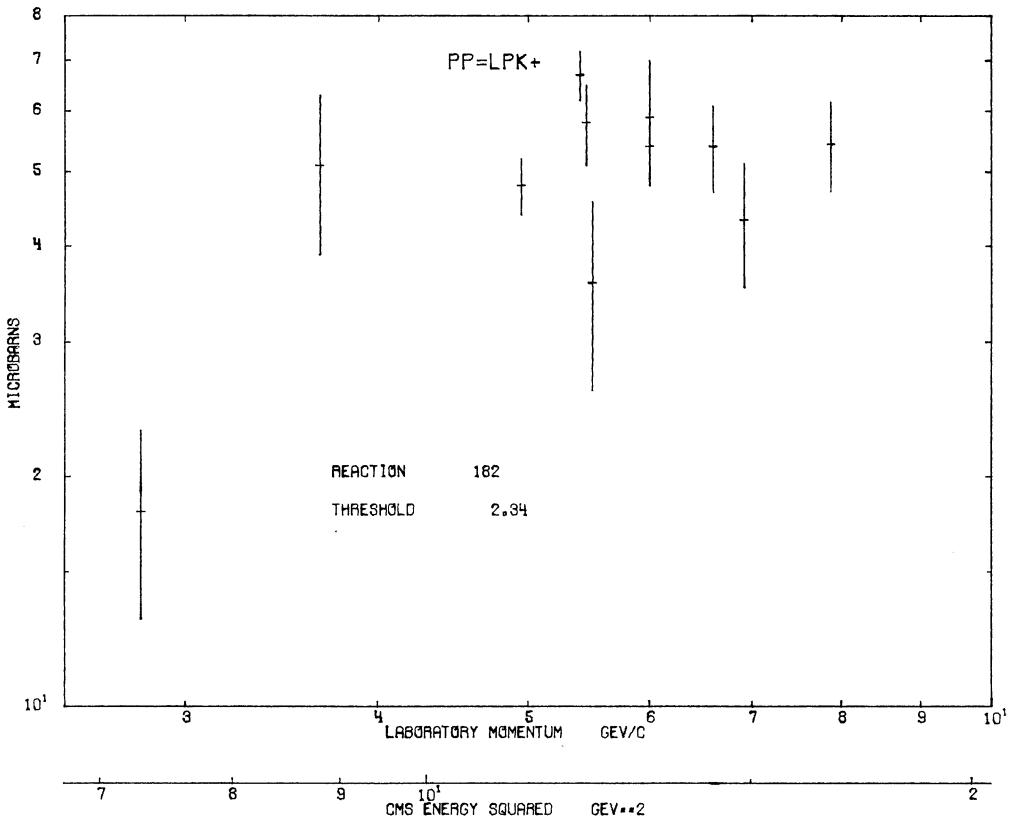

PP=N*++1236NPI+PI-
MICROBARNS
REACTION 96
THRESHOLD 2.08
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

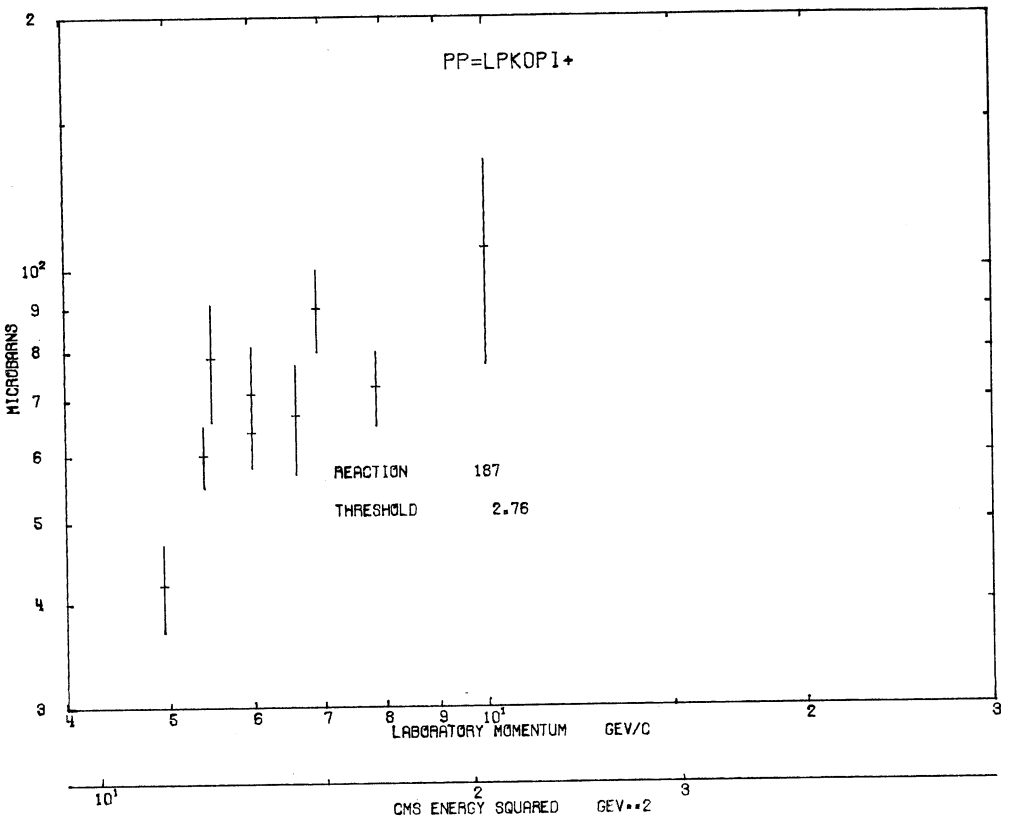

PP=N*+1236P
MICROBARNS
REACTION 109
THRESHOLD 1.28
EXPONENT.N -2.08
DELTA N .26
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

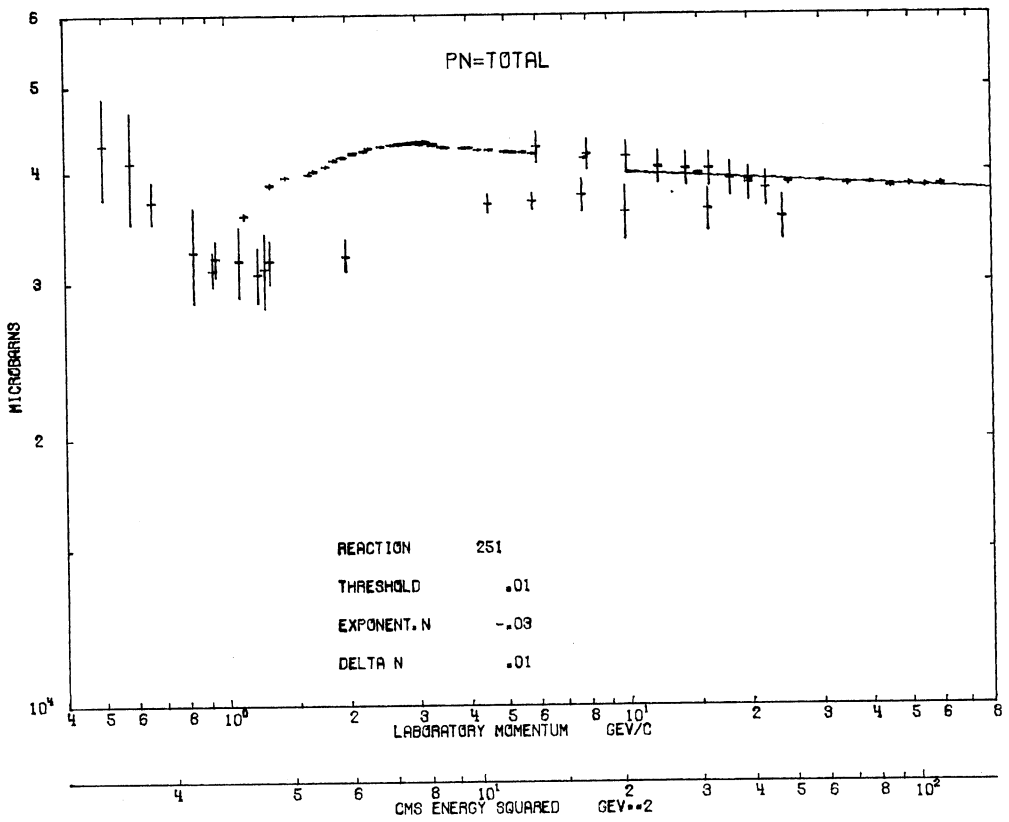

PP=N+1400P
MICROBARNS
REACTION 127
THRESHOLD 1.74
EXPONENT.N -.07
DELTA N .21
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

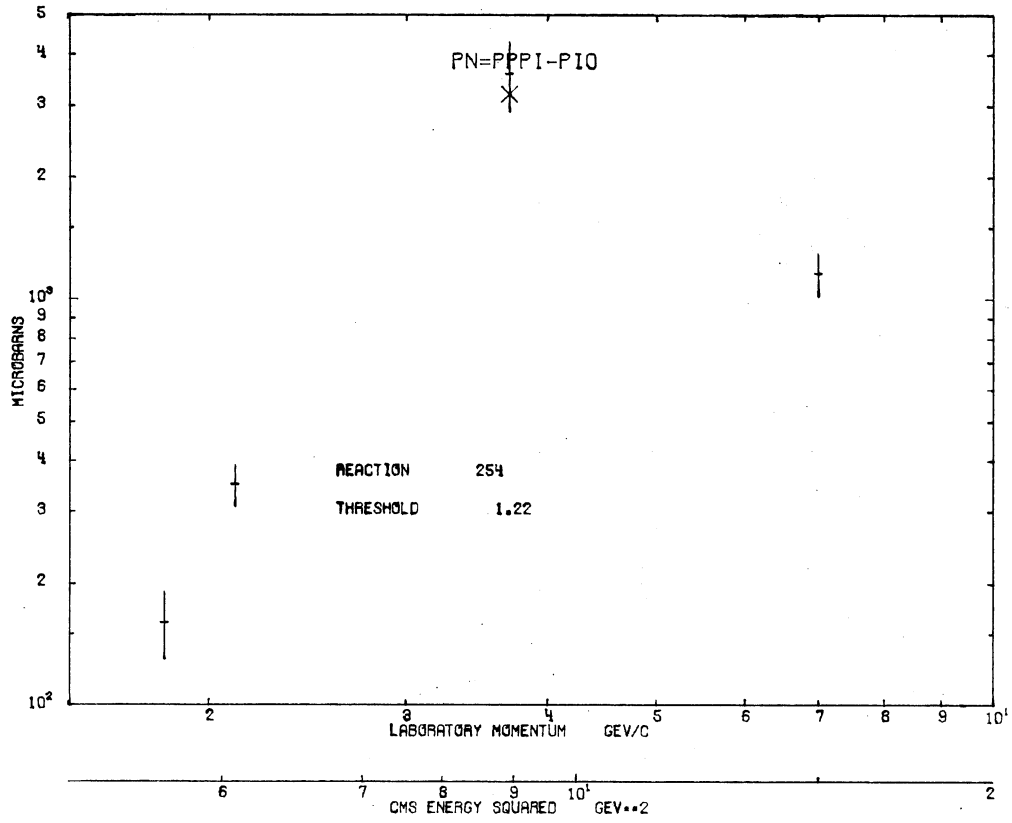

PP=N+1525P
MICROBARNS
REACTION 134
THRESHOLD 2.10
EXPONENT.N -.26
DELTA N .63
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

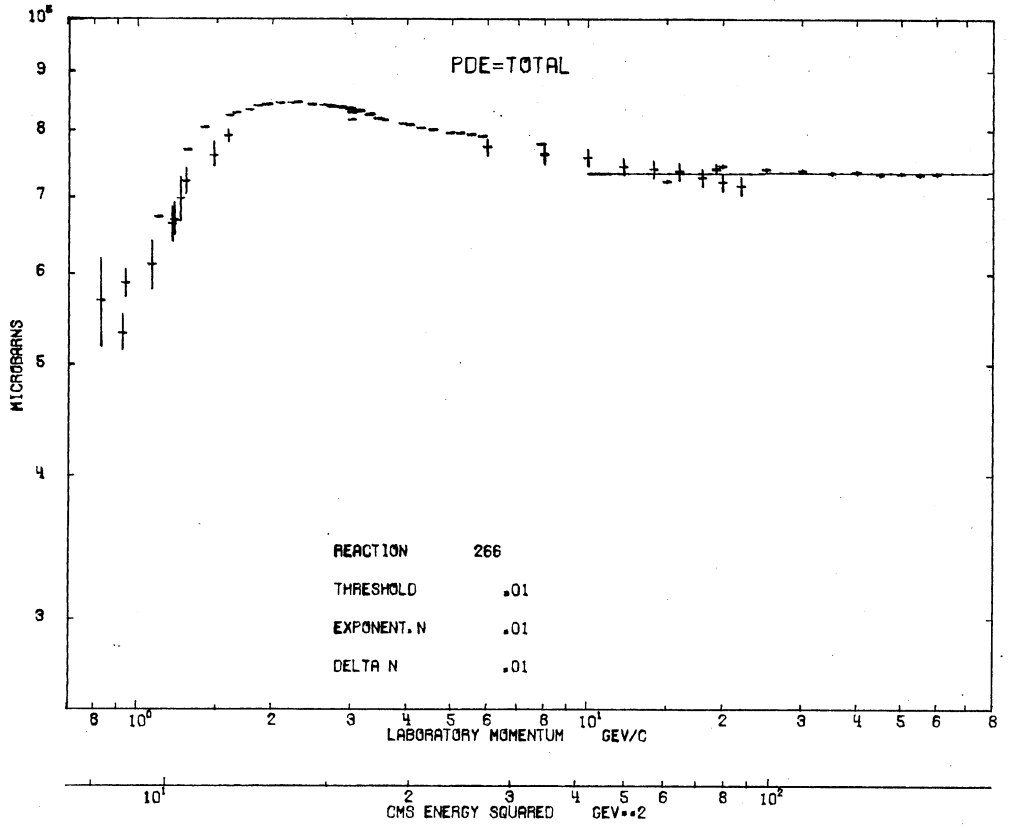

PP=N+1688P
MICROBARNS
REACTION 153
THRESHOLD 2.58
EXPONENT. N -.02
DELTA N .31
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

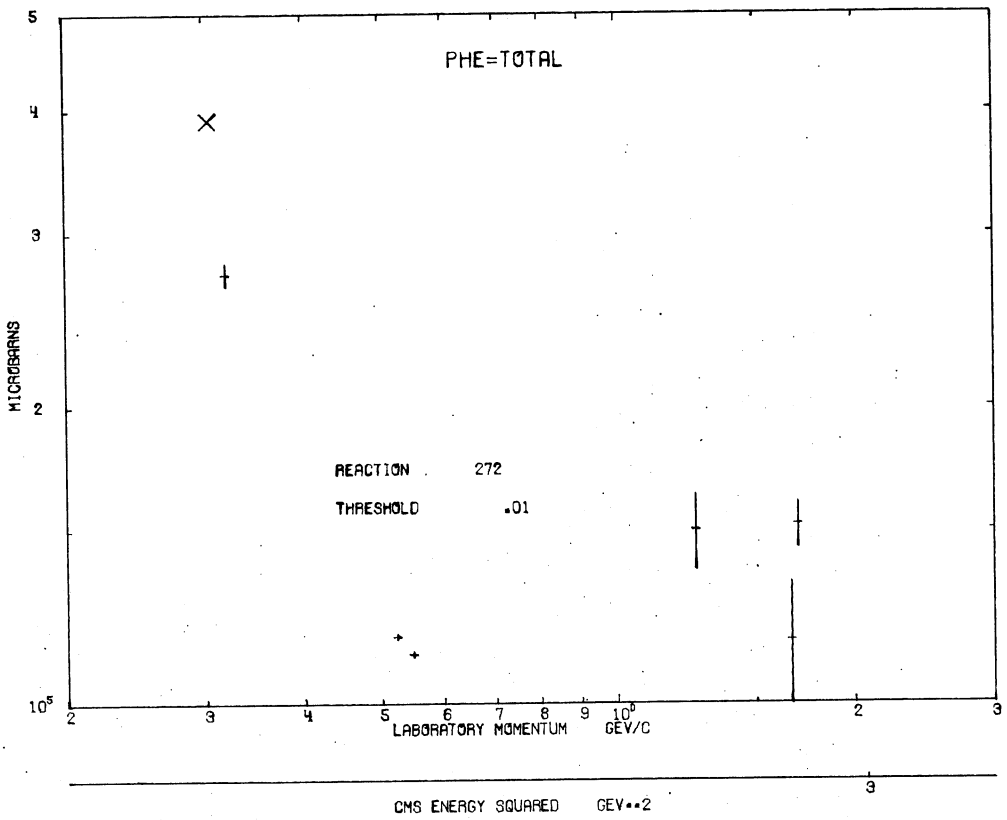

PP=LPK+
MICROBARNS
REACTION 182
THRESHOLD 2.34
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2


PP=LPKOPI+
MICROBARNS
REACTION 187
THRESHOLD 2.76
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2


PN=TOTAL
MICROBARNS
REACTION 251
THRESHOLD .01
EXPONENT.N -.03
DELTA N .01
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2


PN=PPPI-PIO
MICROBARNS
REACTION 254
THRESHOLD 1.22
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2


PDE=TOTAL
MICROBARNS
REACTION 266
THRESHOLD .01
EXPONENT.N .01
DELTA N .01
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2


PHE=TØTAL
REACTION . 272
THRESHOLD .01
MICROBARNS
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

26/04/73

TABLE 7
LIST OF REACTIONS

REACTION NUMBER	REACTION
1	APP=TOTAL
2	APP=APP
3	APP=0 PRONG
4	APP=2 PRONGS
5	APP=2 PRONGS INELASTIC
6	APP=ANNIHILATION INTO 2 PRONGS
7	APP=4 PRONGS
8	APP=4 PRONGS INELASTIC
9	APP=ANNIHILATION INTO 4 PRONGS
10	APP=6 PRONGS
11	APP=ANNIHILATION INTO 6 PRONGS
12	APP=0 PR.+ANN.INTO2,4,6 PRONGS
13	APP=8 PRONGS
14	APP=ANNIHILATION INTO 8 PRONGS
15	APP=8 PRONGS (AND HIGHER)
16	APP=10 PRONGS
17	APP=ANNIHIL. INTO 10 PRONGS
18	APP=TOTAL ANNIHILATION
19	APP=INELASTIC
20	APP=INELASTIC+ ANNIHILATION
21	APP=ANNIHIL.INTO PI+PI-/K+K-
22	APP=ANNIHIL.INTO K MESONS
23	APP=ANNIHILATION INTO K AND PI
24	APP=ANNIHILATION INTO 4 PI
25	APP=ANNIHILATION INTO 5 PI
26	APP=GT 5 PIONS ANNIHILATION
27	APP=ANNIHILATION INTO PIONS
28	APP=PI PROD. WITHOUT ANNIHIL.
29	APP=NUCLEON-ANTINUCLEON+PIONS
30	APP=SINGLE PION PRODUCTION
31	APP=PION PRODUCTION
32	APP=MESON PRODUCTION 2 PRONGS
33	APP=STRANGE PARTICLES
34	APP=HYPERONS
35	APP=PPAPAP
36	APP=PPI+PI-AP
37	APP=PPI+PI-AP (NON RESONANT)
38	APP=PPI+PI-PI-AN
39	APP=PPI+2PI-AN CC
40	APP=PPI+PI-PIOAP
41	APP=PPI+PIOAN*--1236
42	APP=PPI-AN
43	APP=PPIOAP
44	APP=P2PI+3PI-AN
45	APP=P2PI+2PI-PIOAP
46	APP=P2PI+2PI-AP
47	APP=PETAP=PPI+PI-PIOAP
48	APP=POMAP
49	APP=POMAP=PPI+PI-PIOAP
50	APP=(P/N)PIA(P/N)
51	APP=((P(AP/AN)/NAP)5PI
52	APP=((P(AP/AN)/NAP)5PIMPIC
53	APP=NPI+PI+PI-AP
54	APP=NPI+PI-AN
55	APP=NPI+AP
56	APP=NPI+AP CC
57	APP=NAN
58	APP=NAN/NPIOAN
59	APP=N*++1236PI+2PI-AP CC
60	APP=N*++1236PI-PIOAP
61	APP=N*++1236PI-PIOAP CC
62	APP=N*++1236PI-AP CC
63	APP=N*++1236PIOAN*--1236
64	APP=N*++1236AN*--1236
65	APP=NO1520PI+AP=PPI+PI-AP CC
66	APP=NO1520PI+AP=P3PIAP CC
67	APP=NO1520PI+AP=(P/N)3PIAP CC
68	APP=N+1688AP=PPI+PI-AP CC
69	APP=LPI+PI+PI-PI-AL
70	APP=LPI+PI-AL
71	APP=LPIOAL
72	APP=LK+PI+PI-AP CC
73	APP=LK+PI-AN
74	APP=LK+PIOAP
75	APP=LK+AP
76	APP=LK+AP CC
77	APP=LKOPI+PI-AN
78	APP=LKOPI+AP
79	APP=LKOPI+AP CC
80	APP=LKOAN
81	APP=LKOAN CC
82	APP=LKPIAN
83	APP=LK3PIA(N/P) CC
84	APP=LKOAN/LK+AP/SCK+AP/S+KOAP
85	APP=LAL
86	APP=LASO
87	APP=LAY*01385 CC
88	APP=(S/L)PIA(S/L)
89	APP=(S/L)2PIA(S/L) CC
90	APP=(S/L)MPIA(S/L) CC
91	APP=(S/L)KMPIA(N/P) CC
92	APP=(S/L)KA(N/P) CC
93	APP=(S/L)A(S/L) CC
94	APP=(SO/L)PI+PI-PIOAL CC
95	APP=(SO/L)PI+PI-ALZO CC
96	APP=(SO/L)PI+AS-ZO CC
97	APP=(SO/L)2PI+2PI-ALZO CC
98	APP=(SO/L)PI-AS+ZO CC
99	APP=(SO/L)K+PI+PI-APZO CC
100	APP=(SO/L)K+APZO CC
101	APP=(SO/L)KOPI+PI-ANZO CC
102	APP=(SO/L)KOPI+APZO CC
103	APP=(SO/L)KOANZO CC
104	APP=(SO/L)ALZO CC
105	APP=S+PI+PI-PI-AL CC
106	APP=S+PI(-,+)PI-AS(+,-)
107	APP=S+PI-PIOAL CC
108	APP=S+PI-AL
109	APP=S+PI-AL CC
110	APP=S+PI-ASO CC
111	APP=S+PIOAS-
112	APP=S+KOPI-AN
113	APP=S+KOPIOAP
114	APP=S+KOAP
115	APP=S+KOAP CC
116	APP=S+KOAPZO CC
117	APP=S+AS-
118	APP=S+AY*-1385 CC
119	APP=S(+,-)PI+PI-AS(-,+) CC
120	APP=S(+,-)PI+PI-AS(-,+)ZC CC
121	APP=S(+,-)PI(-,+)AL CC
122	APP=S(+,-)PI(-,+)ASO CC
123	APP=S(+,-)PIOAS(-,+)
124	APP=S(+,-)KOPI(-,+)ZC CC
125	APP=S(+,-)AS(-,+)
126	APP=S(+,-)AS(-,+) CC
127	APP=S-PI+PI+PI-AL CC
128	APP=S-PI+PIOAL
129	APP=S-PI+AL
130	APP=S-PI+AL CC
131	APP=S-PI+ASO CC
132	APP=S-AS+
133	APP=S-AY*+1385 CC
134	APP=SOPI+PI-AL CC
135	APP=SOK+AP
136	APP=SOK+AP CC
137	APP=SOKOPI+AP
138	APP=SOKOPI+AP CC
139	APP=SOAL
140	APP=SOAL CC
141	APP=SOASO
142	APP=Y*+1385AS- CC
143	APP=Y*+1385AY*-1385
144	APP=Y*+1385AY*-1385 CC
145	APP=Y*-1385AS+ CC
146	APP=Y*-1385AY*+1385
147	APP=Y*-1385AY*+1385 CC
148	APP=YO1405AL CC
149	APP=YO1520AL CC
150	APP=XI
151	APP=XI- CC
152	APP=XI-PI+AXIC CC
153	APP=XI-AXI+
154	APP=XIOAXIO
155	APP=XI*(-,0)1530AXI(+,0) CC
156	APP=OM- C.C
157	APP=PI+PI-
158	APP=PI+PI-PIO
159	APP=PI+PI-ZO
160	APP=2PI+2PI-
161	APP=2PI+2PI-PIC
162	APP=2PI+2PI-(PIO/ZO)
163	APP=2PI+2PI-2PIO
164	APP=2PI+2PI-ZC
165	APP=2PI+2PI-3PIC
166	APP=2PI+2PI-4PIO
167	APP=2PI+2PI-5PIO
168	APP=3PI+3PI-
169	APP=3PI+3PI-PIC
170	APP=3PI+3PI-(PIO/ZC)
171	APP=3PI+3PI-2PIO
172	APP=3PI+3PI-ZO
173	APP=3PI+3PI-3PIC
174	APP=4PI+4PI-
175	APP=4PI+4PI-PIO
176	APP=4PI+4PI-2PIC
177	APP=4PI+4PI-ZC
178	APP=4PI+4PI-3PIO
179	APP=5PI+5PI-
180	APP=5PI+5PI-PIC
181	APP=5PI+5PI-ZC
182	APP=ZO
183	APP=K+K-
184	APP=K+K-PI+PI-
185	APP=K+K-PI+PI-PIC
186	APP=K+KOMPI CC
187	APP=K+KSPI+2PI- CC
188	APP=K+KSPI+2PI-PIC CC
189	APP=K+KSPI+2PI-ZO CC
190	APP=K+KSPI-
191	APP=K+KSPI- CC
192	APP=K+KSPI-PIO CC
193	APP=K+KSPI-ZC CC
194	APP=K(+,-)KOPI(-,+)
195	APP=K(+,-)KOPI(-,+)PI+PI-
196	APP=K(+,-)KOPI(-,+)PI+PI-PIO
197	APP=K(+,-)KOPI(-,+)PIO
198	APP=K(+,-)KSPI(-,+)
199	APP=K(+,-)KSPI(-,+)PI+PI-
200	APP=K(+,-)KSPI(-,+)PI+PI-PIO
201	APP=K(+,-)KSPI(-,+)PIC
202	APP=K(+,-)KSPI(-,+)ZO
203	APP=K(+,-)KS3PI(+,-)
204	APP=K-KSPI+
205	APP=KOMPI CC
206	APP=KOKO
207	APP=KOKOPI+PI-
208	APP=KOKOPI+PI-PIO
209	APP=KOKOPI+PI+PI-PI-
210	APP=KOKOPI+PI+PI-PI-PIO
211	APP=KOKOPI+PI+PI-PI-ZO
212	APP=KOKOPIO

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213 ----------  APP=K0K0MPI
214 ----------  APP=K0KSPI+PI-
215 ----------  APP=K0KS2PI+2PI-
216 ----------  APP=K0KMPI CC
217 ----------  APP=KSPI+PI-ZC
218 ----------  APP=KS2PI+2PI-Z0
219 ----------  APP=KSK(+,-)PI(-,+)
220 ----------  APP=KSK(+,-)PI(-,+)PI+PI-
221 ----------  APP=KSK(+,-)PI(-,+)PI+PI-PIC
222 ----------  APP=KSK(+,-)PI(-,+)PIC
223 ----------  APP=KSKS
224 ----------  APP=KSKSPI+PI-
225 ----------  APP=KSKSPi+PI-PIC
226 ----------  APP=KSKSPI+PI-PI0PI0
227 ----------  APP=KSKSPI+PI-Z0
228 ----------  APP=KSKSPI0
229 ----------  APP=KSKS2PI+2PI-
230 ----------  APP=KSKS2PI+2PI-PI0
231 ----------  APP=KSKS2PI+2PI-Z0
232 ----------  APP=KSKSZ0
233 ----------  APP=KSKL
234 ----------  APP=KSKLPI+PI-
235 ----------  APP=KSKL2PI+2PI-
236 ----------  APP=KK
237 ----------  APP=KKPI
238 ----------  APP=KK2PI
239 ----------  APP=KK3PI
240 ----------  APP=KK4PI
241 ----------  APP=KK5PI
242 ----------  APP=KK6PI
243 ----------  APP=KK(6/7)PI
244 ----------  APP=KK7PI
245 ----------  APP=KKMPI(M.GE.C)
246 ----------  APP=KKMPI(M.GE.8)
247 ----------  APP=KKMPI
248 ----------  APP=KKKKMPI
249 ----------  APP=ETPI+PI-
250 ----------  APP=RH+PI+PI-PI-
251 ----------  APP=RH(+,-)PI(-,+)PI+PI-
252 ----------  APP=RH(+,-)PI(-,+)2PI+2PI-
253 ----------  APP=RH(-,+)3PI(+,-)2PI(-,+)
254 ----------  APP=RH-PI+PI+PI-
255 ----------  APP=RHOPI+PI-
256 ----------  APP=RHOPI+PI-PI0
257 ----------  APP=RHOPI0
258 ----------  APP=RHO2PI+2PI-
259 ----------  APP=RHO2PI+2PI-PI0
260 ----------  APP=RHOK0K0
261 ----------  APP=RHKKPI=K(+,-)KSPI(-,+)Z0
262 ----------  APP=RHOKKPI=K(+,-)KS3PI(+,-)
263 ----------  APP=RHOKSKS
264 ----------  APP=RHKSKSPI
265 ----------  APP=RHORHO
266 ----------  APP=2RHOPI+PI-PIC
267 ----------  APP=3RHOPI0
268 ----------  APP=OMPI+PI-
269 ----------  APP=OMPI+PI-=2PI+2PI-PIC
270 ----------  APP=OM2PI+2PI-
271 ----------  APP=OM2PI+2PI-=3PI+3PI-PIC
272 ----------  APP=OMK(+,-)KSPI(-,+)=KK4PI
273 ----------  APP=OMKSKS
274 ----------  APP=OMRHOPI+PI-
275 ----------  APP=K**K CC
276 ----------  APP=K*890K CC
277 ----------  APP=K*890KPIPI=K(+,-)KS3PI +,-
278 ----------  APP=K*89CKPIPI=KSKSPI+PI-PIC
279 ----------  APP=K*890K3PI=K(+,-)KS4PI
280 ----------  APP=K*890KZ0=K(+,-)KSPI(-,+)Z0
281 ----------  APP=K*(+,-)89CK(-,+)
282 ----------  APP=K*(+,-)K(-,+)=KSK(-,+)PI
283 ----------  APP=K*(+,-)890K(-,+)PI0
284 ----------  APP=K*(+,-)K0PI(-,+)
285 ----------  APP=K*C890(K,PI)C
286 ----------  APP=K*089CKC
287 ----------  APP=K*0890KS
288 ----------  APP=PHIPI+PI-=KSKLPI+PI-
289 ----------  APP=A1(+,-)PI(-,+)
290 ----------  APP=A1(+,-)PI(-,+)PI+PI-PI0
291 ----------  APP=B(+,-)PI(-,+)=CMPI+PI-
292 ----------  APP=S*PI+PI-
293 ----------  APP=FPI+PI-
294 ----------  APP=FPI+PI-=PI+PI+PI-PI-
295 ----------  APP=FPI+PI-PI0
296 ----------  APP=FRH0
297 ----------  APP=FF
298 ----------  APP=K*127CKPI+PI-
299 ----------  APP=K*01270KS=KSKSPI+PI-
300 ----------  APP=D0PI0
301 ----------  APP=D0PI0=K(+,-)KSPI(-,+)PI0
302 ----------  APP=D0PI0=RHCPI+PI-PI0
303 ----------  APP=D0PIPI=K(+,-)KS3PI(+,-)
304 ----------  APP=D0ET=K(+,-)KSPIPI+PI-PI0
305 ----------  APP=DCET=K(+,-)KSPI(-,+)ZC
306 ----------  APP=D0RHC=K(+,-)KS3PI(+,-)
307 ----------  APP=D00M=K(+,-)KSPIPI+PI-PI0
308 ----------  APP=D00M=K(+,-)KSPI(-,+)Z0
309 ----------  APP=D0Z0=K(+,-)KSPI(-,+)ZC
310 ----------  APP=A2(+,-)PI(-,+)
311 ----------  APP=A2(+,-)PIPI0=RH0PI+PI-PI0
312 ----------  APP=A2(+,-)PI(-,+)PI+PI-PI0
313 ----------  APP=A20PI+PI-
314 ----------  APP=A20PI+PI-=RH(+,-)PIPI+PI-
315 ----------  APP=K*132CKPI(+,-)
316 ----------  APP=K*132CKPI(+,-)=KSK(+,-)PI
317 ----------  APP=K*132CKPI(+,-)PIC
318 ----------  APP=K*142CKPI+PI-
319 ----------  APP=K*01420KS=KSKSPI+PI-
320 ----------  APP=E0PI0=RH0PI+PI-PI0
321 ----------  APP=G0PI+PI-PI0
322 ----------  APN=TOTAL
323 ----------  APN=APN
324 ----------  APN=INELASTIC
325 ----------  APN=HYPERONS
326 ----------  APN=PPI-PI-AN
327 ----------  APN=PPI-PI0AP
328 ----------  APN=PPI-AP
329 ----------  APN=PAN*--1236
330 ----------  APN=NPI+PI-AP
331 ----------  APN=N**1236AN*--1236=PPI-PICAP
332 ----------  APN=LPI-AL
333 ----------  APN=LPI(0,-)AS(-,0)/S-PI0AL
334 ----------  APN=LAS- CC
335 ----------  APN=S-PI-AS+ CC
336 ----------  APN=U0PI-=2PI+3PI-
337 ----------  APDE=TOTAL
338 ----------  APDE=DEAP ELASTIC
339 ----------  APDE=INELASTIC
340 ----------  APDE=CHARGE EXCHANGE
341 ----------  APDE=DEPI+PI-AP
342 ----------  APDE=PPPI-PI-AN
343 ----------  APDE=PPPI-PICAP
344 ----------  APDE=PNPI+PI-AP
```

TABLE 8

DESCRIPTION

At the top of each page we print the initial state particles. For each reaction we then print the number assigned to it, and the relative final state, together with a table of momenta and cross sections.

In the table the first three columns describe the initial state, they are labelled, s, K. ENERGY, and PLAB, and represent, respectively, the total c.m. energy squared in GeV^2, the kinetic energy in GeV of the incident particle and the laboratory momentum in GeV/c of the incident particle. In the fourth column, is the cross section in millibarns unless otherwise stated. In the fifth column, headed ERROR is the error on the cross section in the same units; however if the error quoted is asymmetric, the plus error is given in the fifth column and the negative error in the sixth (which does not have a heading). In the next section is given the reference which is so entitled. Should a footnote be required a symbol is printed in the last column and then is preprinted and explained at the bottom of the page under the heading = "FOOTNOTES".

Finally, if there are sufficient data points a fit of the formula

$$\sigma = K \; p_{LAB}^{+N}$$

is made and the results of this fit are given, that is the values and errors of K and N are quoted together with the number of points fitted, the χ^2 - value and the probability of the fit. The fit is made to all data values above a certain lower limit of p_{LAB} and the value of the lower limit is also printed.

APP

S	K.ENERGY	PLAB	CROSS SECTION	ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 1							
TOTAL							
3.603	.044	.290	281.0000	46.0000		CORK NC25,497-62	1
3.630	.058	.334	239.7000	6.8000		AMALDI NC46A,171-66	
3.639	.063	.349	224.5000	6.6000		CONFORTO NC54A,441-68	
3.655	.071	.372	201.3000	6.8000		AMALDI NC46A,171-66	
3.655	.071	.372	201.3000	6.8000		AMALDI NC46A,171-66	
3.677	.083	.403	203.1000	6.5000		AMALDI NC46A,171-66	
3.678	.084	.405	199.7000	5.5000		CONFORTO NC54A,441-68	
3.690	.090	.420	185.0000	13.0000		CORK NC25,497-62	1
3.697	.093	.429	196.6000	6.1000		AMALDI NC46A,171-66	
3.708	.100	.444	188.0000	4.9000		CONFORTO NC54A,441-68	
3.715	.103	.452	188.9000	4.6000		AMALDI NC46A,171-66	
3.727	.110	.467	179.5000	4.5000		CONFORTO NC54A,441-68	
3.732	.112	.472	173.1000	4.2000		AMALDI NC46A,171-66	
3.748	.121	.491	172.0000	5.0000		AMALDI NC46A,171-66	
3.755	.124	.499	171.1000	4.5000		CONFORTO NC54A,441-68	
3.763	.129	.508	168.0000	4.8000		AMALDI NC46A,171-66	
3.777	.136	.524	172.2000	4.7000		AMALDI NC46A,171-66	
3.778	.137	.525	169.2000	4.1000		CONFORTO NC54A,441-68	
3.791	.144	.539	159.5000	3.8000		AMALDI NC46A,171-66	
3.793	.145	.541	163.0000	12.0000		CORK NC25,497-62	1
3.804	.151	.553	167.6000	3.5000		CONFORTO NC54A,441-68	
3.804	.151	.553	165.0000	4.7000		AMALDI NC46A,171-66	
3.818	.158	.567	168.0000	4.5000		AMALDI NC46A,171-66	
3.826	.162	.575	167.4000	7.8000		AMALDI NC34,825-65	
3.828	.163	.577	161.1000	3.2000		CONFORTO NC54A,441-68	
3.831	.165	.580	161.1000	4.3000		AMALDI NC46A,171-66	
3.842	.171	.592	155.8000	4.1000		AMALDI NC46A,171-66	
3.850	.175	.599	154.3000	3.0000		CONFORTO NC54A,441-68	
3.855	.178	.604	152.9000	4.0000		AMALDI NC46A,171-66	
3.878	.190	.627	135.0000	16.0000		CORK PR1C7,248-57	
3.880	.191	.629	156.3000	7.3000		AMALDI NC34,825-65	
3.936	.221	.681	144.3000	3.7000		AMALDI NC34,825-65	
3.981	.245	.721	118.0000	9.0000		CORK NC25,497-62	1
3.995	.252	.733	142.1000	3.3000		AMALDI NC34,825-65	
4.056	.285	.785	132.7000	3.0000		AMALDI NC34,825-65	
4.084	.300	.808	104.0000	14.0000		CORK PR1C7,248-57	
4.120	.319	.837	128.0000	2.9000		AMALDI NC34,825-65	
4.158	.339	.867	126.7000	1.3000		AMALDI NC34,825-65	
4.185	.354	.888	116.8000	3.3000		AMALDI NC34,825-65	
4.296	.413	.972	120.5000	.9000		AMALDI NC34,825-65	
4.334	.433	1.000	117.4200	.2100		ABRAMS BNL14C46-69	
4.403	.470	1.050	114.5900	.1700		ABRAMS BNL14C46-69	
4.437	.488	1.074	113.3000	.9000		AMALDI NC34,825-65	
4.459	.500	1.090	97.0000	4.0000		CORK PR1C7,248-57	
4.474	.508	1.100	111.6400	.1600		ABRAMS BNL14C46-69	
4.524	.534	1.135	118.0000	6.0000		ELICFF PR128,869-62	
4.546	.546	1.150	110.1100	.1200		ABRAMS BNL14C46-69	
4.575	.561	1.170	108.0000	3.0000		CCBRZ. CCLL.DE FRANCE	
4.587	.568	1.178	111.6000	.6000		AMALDI NC34,825-65	
4.619	.585	1.200	108.9600	.1100		ABRAMS BNL14C46-69	
4.694	.625	1.250	107.7500	.1000		ABRAMS BNL14C46-69	
4.769	.665	1.300	106.4700	.1000		ABRAMS BNL14C46-69	
4.835	.700	1.343	116.0000	5.0000		ELICFF PR128,869-62	
4.835	.700	1.343	94.0000	4.0000		CORK PR1C7,248-57	
4.838	.702	1.345	105.5000	.1000		ABRAMS BNL14C46-69	
4.892	.730	1.380	103.3000	.4000		AMALDI NC34,825-65	
4.923	.747	1.400	102.7800	.0900		ABRAMS BNL14C46-69	
5.002	.789	1.450	101.1200	.0800		ABRAMS BNL14C46-69	
5.054	.817	1.483	108.0000	5.0000		ELICFF PR128,869-62	
5.065	.823	1.490	100.2600	.0600		ABRAMS BNL14C46-69	
5.161	.874	1.550	98.8200	.0600		ABRAMS BNL14C46-69	
5.241	.917	1.600	97.8100	.0600		ABRAMS BNL14C46-69	
5.257	.925	1.610	96.0000	4.0000		LYNCH PR131,1276-63	
5.301	.949	1.637	96.0000	3.0000		ELICFF PR128,869-62	
5.322	.960	1.650	97.0500	.0600		ABRAMS BNL14C46-69	
5.376	.989	1.683	96.1700	.3900		AMALDI NC34,825-65	
5.404	1.003	1.700	96.4600	.0600		ABRAMS BNL14C46-69	
5.404	1.003	1.700	100.0000	3.0000		ARMENT.PR119,2068-60	
5.487	1.047	1.750	95.6100	.0600		ABRAMS BNL14C46-69	
5.527	1.069	1.774	96.0000	3.0000		ELICFF PR128,869-62	
5.580	1.097	1.806	95.4800	.0600		ABRAMS BNL14C46-69	
5.653	1.136	1.850	93.7100	.0600		ABRAMS BNL14C46-69	
5.695	1.158	1.875	93.0500	.0600		ABRAMS BNL14C46-69	
5.710	1.166	1.884	87.8300	.2400		AMALDI NC34,825-65	
5.737	1.181	1.900	92.5200	.0600		ABRAMS BNL14C46-69	
5.779	1.203	1.925	92.0700	.0600		ABRAMS BNL14C46-69	
5.821	1.226	1.950	91.3800	.0600		ABRAMS BNL14C46-69	
5.855	1.244	1.970	89.0000	4.0000		ARMENT. PR119,2068-60	
5.906	1.271	2.000	90.2300	.0400		ABRAMS BNL14C46-69	
5.991	1.316	2.050	88.8400	.0500		ABRAMS BNL14C46-69	
6.046	1.345	2.082	88.4800	.2000		AMALDI NC34,825-65	
6.068	1.357	2.095	88.4600	.0600		ABRAMS BNL14C46-69	
6.163	1.408	2.150	87.3600	.0600		ABRAMS BNL14C46-69	
6.249	1.453	2.200	86.8100	.0600		ABRAMS BNL14C46-69	
6.335	1.500	2.250	85.6200	.0600		ABRAMS BNL14C46-69	
6.396	1.532	2.285	83.7600	.4300		AMALDI NC34,825-65	
6.422	1.546	2.300	85.0000	.0500		ABRAMS BNL14C46-69	
6.509	1.592	2.350	84.4500	.0500		ABRAMS BNL14C46-69	
6.596	1.639	2.400	83.6600	.0600		ABRAMS BNL14C46-69	
6.684	1.685	2.450	83.1600	.0600		ABRAMS BNL14C46-69	
6.745	1.718	2.485	78.0400	.5200		AMALDI NC34,825-65	
6.771	1.732	2.500	82.3200	.0400		ABRAMS BNL14C46-69	
6.859	1.779	2.550	81.6400	.0500		ABRAMS BNL14C46-69	
6.948	1.826	2.600	81.1200	.0500		ABRAMS BNL14C46-69	
7.036	1.873	2.650	80.6100	.0500		ABRAMS BNL14C46-69	
7.100	1.907	2.686	79.3300	.2500		AMALDI NC34,825-65	
7.124	1.920	2.700	79.9000	.0500		ABRAMS BNL14C46-69	
7.213	1.967	2.750	79.4700	.0500		ABRAMS BNL14C46-69	
7.275	2.001	2.785	80.0000	6.0000		ARMENT.PR119,2068-60	
7.302	2.015	2.800	78.9100	.0500		ABRAMS BNL14C46-69	
7.391	2.062	2.850	78.2100	.0500		ABRAMS BNL14C46-69	
7.455	2.096	2.886	77.8200	.2800		AMALDI NC34,825-65	
7.480	2.110	2.900	77.7900	.0500		ABRAMS BNL14C46-69	
7.552	2.148	2.940	74.3000	6.1000		AMALDI NC34,825-65	
7.570	2.157	2.950	77.2300	.0500		ABRAMS BNL14C46-69	

FOOTNOTES

1=AVERAGE VALUE OVER A BAND OF MOMENTA

********** APP **********

	S	K.ENERGY	PLAB	CROSS SECTION	ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 1								
TOTAL							ABRAMS BNL14C46-69	
(CONTINUATION)	7.659	2.205	3.CCC	76.68CC	.C5CC		LINDENBA. PRL7,185-61	C
	7.659	2.205	3.CCC	80.CCCC	ERROR NOT GIVEN		ESCOUBES PL5,132-63	
	7.659	2.205	3.000	79.9000	1.7CCC		ABRAMS BNL14C46-69	
	7.749	2.253	3.05C	76.29CC	.C5CC		AMALDI NC34,825-65	
	7.781	2.270	3.C68	75.24CC	.7CCC		ABRAMS BNL14C46-69	
	7.838	2.301	3.100	75.6600	.05CC		ABRAMS BNL14C46-69	
	7.928	2.349	3.150	75.16CC	.C5CC		ABRAMS BNL14C46-69	
	8.018	2.396	3.2CC	74.66CC	.C5CC		AMALDI NC34,825-65	
	8.09C	2.435	3.24C	72.9CCC	1.CCCC		ABRAMS BNL14046-69	
	8.108	2.444	3.250	74.2000	.05CC		FERBEL PR137B,1250-65	
	8.162	2.473	3.28C	75.4CCC	2.CCCC		ABRAMS BNL14C46-69	
	8.199	2.493	3.3CC	73.67CC	.C5CC		AMALDI NC34,825-65	
	8.633	2.724	3.540	69.7CCC	.5000		DEHNE PR136B,843-64	
	8.742	2.782	3.600	76.2000	1.8000		FERBEL PR137B,1250-65	
	8.851	2.840	3.660	71.7000	2.CCCC		AMALDI NC34,825-65	
	9.215	3.034	3.86C	67.7CCC	.9CCC		AMALDI NC34,825-65	
	9.498	3.185	4.C15	66.84CC	.3200		AMALDI NC34,825-65	
	10.020	3.463	4.300	60.6000	.8CCC		AMALDI NC34,825-65	
	10.754	3.854	4.7CC	65.80CC	.9CCC		VONCARCEL,149,ROCH60	
	11.307	4.149	5.CCC	67.CCCC	2.1CCC		AMALDI NC34,825-65	
	11.953	4.493	5.35C	57.9000	2.6000		BOCKMANN NC42A,954-66	
	12.601	4.838	5.700	63.6000	1.4000		GALBR.PR13EB,913-65	
	13.157	5.135	6.CCC	59.3CCC	1.1CCC		VONCARCEL,149,ROCH60	
	13.157	5.135	6.000	60.6000	2.CCCC		DENISOV,PL34B,167-71	
	14.363	5.778	6.650	59.3000	.6CCC		KITAGAKI PRL21,175-68	
	14.828	6.025	6.9CC	63.1CCC	2.9CCC		FERBEL PR173,1307-68	
	14.902	6.065	6.94C	58.7CCC	2.8CCC		VONCARCEL,149,ROCH60	
	15.014	6.124	7.CCC	63.CCCC	2.3CCC		GALBR.PR13EB,913-65	
	16.876	7.117	8.000	56.4000	.8CCC		VONCARCEL,149,ROCH60	
	20.608	9.106	10.CCC	46.CCCC	2.CCCC		LINDENBA. PRL7,185-61	
	20.608	9.106	10.CCC	58.CCCC	4.CCCC		VONCARCEL,149,ROCH60	
	20.982	9.305	10.200	52.6000	2.7000		VONCARCEL,149,ROCH60	
	21.916	9.803	10.700	53.CCCC	1.1CCC		GALBR.PR13EB,913-65	
	24.348	11.C98	12.CCC	51.7CCC	.8CCC		GALBR.PR13EB,913-65	
	28.091	13.C93	14.CCC	5C.7CCC	.9CCC		GALBR.PR13EB,913-65	
	31.836	15.089	16.CCC	49.2000	.8000		GALBR.PR13EB,913-65	
	35.584	17.086	18.000	50.3CCC	3.6CCC		ALLABY PL3CB,500-69	
	39.332	19.084	2C.CCC	49.CCCC	1.1CCC		LINDENBA. PRL7,185-61	
	39.895	19.383	2C.3CC	48.CCCC	4.CCCC		DENISOV,PL36B,528-71	
	44.956	22.081	23.000	47.4000	.3000		ALLABY PL3CB,5CC-69	
	48.706	24.C79	25.CCC	46.1CCC	.6CCC		DENISOV,PL36B,528-71	
	53.395	26.578	27.3CC	46.3CCC	.3CCC		ALLABY PL3CB,500-69	
	58.084	29.C76	3C.CCC	47.2000	.6000		DENISOV,PL36B,528-71	
	59.959	30.076	31.000	46.1000	.3CCC		DENISOV,PL36B,528-71	
	64.648	32.575	33.5CC	45.6000	.3CCC		ALLABY PL3CB,5CC-69	
	67.462	34.C74	35.CCC	45.5CCC	.7CCC		DENISOV,PL36B,528-71	
	67.462	34.C74	35.CCC	44.6000	.3CCC		DENISOV,PL36B,528-71	
	72.152	36.573	37.500	44.7000	.3000		ALLABY PL3CB,5CC-69	
	76.842	39.C73	4C.CCC	45.CCCC	.7CCC		DENISOV,PL36B,528-71	
	76.842	39.C73	4C.CCC	44.CCCC	.3CCC		DENISOV,PL36B,528-71	
	81.532	41.572	42.500	44.5000	.3000		ALLABY PL3CB,500-69	
	86.222	44.072	45.000	44.9000	.7000		DENISOV,PL36B,528-71	
	90.912	46.571	47.5CC	44.1000	.3CCC		ALLABY PL3CB,500-69	
	95.603	49.C71	5C.CCC	43.6CCC	.8CCC			
							159 DATA POINTS LISTED	
THRESHOLD	3.52	0.00	0.00					

FIT OF SIGMA AGAINST PLAB GEV/C

25 DATA POINTS USED ABOVE 1C.C GEV/C , PROB. =1.CC
K = 67.63 +- 3.C1 N = -.11 +- .C1

..... REACTION 2								
APP	3.559	.C2C	.195	100.8CCC	5.3CCC		SPENCER,NPB19,501-70	
	3.578	.030	.240	72.8CCC	3.4CCC		SPENCER,NPB19,501-70	
	3.596	.040	.276	73.7000	2.7000		SPENCER,NPB19,501-70	
	3.603	.044	.290	80.0000	10.000C		CORK NC25,497-62	1
	3.615	.C5C	.310	73.CCCC	2.8CCC		SPENCER,NPB19,501-70	
	3.630	.058	.334	82.3CCC	3.7CCC		AMALDI NC46A,171-66	
	3.633	.060	.340	71.C000	3.5000		SPENCER,NPB19,501-70	
	3.639	.063	.349	77.6000	3.3CCC		CONFORTO NC54A,441-68	
	3.653	.C7C	.37C	65.2CCC	5.6CCC		SPENCER,NPB19,501-70	
	3.655	.071	.372	72.5CCC	3.6CCC		AMALDI NC46A,171-66	
	3.677	.083	.403	73.1000	3.4000		AMALDI NC46A,171-66	
	3.678	.084	.4C5	71.1CCC	2.8CCC		CONFORTO NC54A,441-68	
	3.69C	.090	.42C	65.CCCC	6.CCCC		CORK NC25,497-62	1
	3.697	.093	.429	68.5CCC	3.2000		AMALDI NC46A,171-66	
	3.708	.100	.444	68.7000	2.5CCC		CONFORTO NC54A,441-68	
	3.715	.103	.452	69.7CCC	2.5CCC		AMALDI NC46A,171-66	
	3.727	.110	.467	62.CCCC	2.2CCC		CONFORTO NC54A,441-68	
	3.732	.112	.472	58.4000	2.2000		AMALDI NC46A,171-66	
	3.748	.121	.491	61.4CCC	2.8CCC		AMALDI NC46A,171-66	
	3.755	.124	.499	62.6CCC	2.3CCC		CONFORTO NC54A,441-68	
	3.763	.129	.5C8	62.CCCC	2.7CCC		AMALDI NC46A,171-66	
	3.771	.133	.517	72.0000	9.0000	11.0000	COOMBES PR112,1303-58	
	3.777	.136	.524	60.9CCC	2.6CCC		AMALDI NC46A,171-66	
	3.778	.137	.525	59.5CCC	2.1CCC		CONFORTO NC54A,441-68	
	3.791	.144	.539	59.9CCC	2.3000		AMALDI NC46A,171-66	
	3.793	.145	.541	52.0000	6.000C		CORK NC25,497-62	1
	3.804	.151	.553	63.5CCC	2.2CCC		CONFORTO NC54A,441-68	
	3.804	.151	.553	61.9CCC	2.9CCC		AMALDI NC46A,171-66	
	3.818	.158	.567	63.9000	2.8000		AMALDI NC46A,171-66	
	3.828	.163	.577	61.3000	2.0000		CONFORTO NC54A,441-68	
	3.834	.166	.583	60.6CCC	2.7CCC		AMALDI NC46A,171-66	
	3.842	.171	.592	6C.CCCC	2.6CCC		AMALDI NC46A,171-66	
	3.850	.175	.599	57.3000	1.8000		CONFORTO NC54A,441-68	
	3.855	.178	.604	55.4000	2.4CCC		AMALDI NC46A,171-66	
	3.891	.197	.639	64.CCCC	7.CCCC	9.CCCC	COOMBES PR112,1303-58	
	3.981	.245	.721	45.CCCC	5.CCCC		CORK NC25,497-62	1
	4.018	.265	.753	50.0000	6.0000	7.0000	COOMBES PR112,1303-58	
	4.146	.333	.858	49.0000	5.CCCC	7.CCCC	COOMBES PR112,1303-58	

FOOTNOTES

0=ORDER OF MAGNITUDE
1=AVERAGE VALUE OVER A BAND OF MOMENTA

********** APP **********

	S	K.ENERGY	PLAB	CROSS SECTION	ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 2								
APP								
(CONTINUATION)	4.488	.515	1.110	43.8000	.8000		KALBFLEI,NPB30,466-71	
	4.524	.534	1.135	42.0000	5.0000		ELIOFF PR128,869-62	
	4.679	.617	1.240	43.2000	3.5000		COOPER,NPB16,155-70	
	4.679	.617	1.240	43.2000	3.5000		COOPER TBP NP -69	
	4.784	.673	1.310	41.3000	.4000		KALBFLEI,NPB30,466-71	
	4.800	.681	1.320	43.3000	3.0000		COOPER TBP NP -69	
	4.800	.681	1.320	43.3000	3.0000		COOPER,NPB16,155-70	
	4.835	.700	1.343	42.0000	4.0000		ELIOFF PR128,869-62	
	5.054	.817	1.483	38.0000	4.0000		ELIOFF PR128,869-62	
	5.097	.840	1.510	39.3000	.8000		KALBFLEI,NPB30,466-71	
	5.145	.865	1.540	38.5000	3.0000		COOPER,NPB16,155-70	
	5.145	.865	1.540	38.5000	3.0000		COOPER TBP NP -69	
	5.257	.925	1.610	31.1000	2.0000		LYNCH PR131,1276-63	
	5.274	.934	1.620	37.2000	3.0000		COOPER TBP NP -69	
	5.274	.934	1.620	37.2000	3.0000		COOPER,NPB16,155-70	
	5.301	.949	1.637	33.0000	3.0000		ELIOFF PR128,869-62	
	5.404	1.003	1.700	33.0000	2.0000		ARMENT. PR119,2068-60	
	5.527	1.069	1.774	30.0000	2.0000		ELIOFF PR128,869-62	
	5.855	1.244	1.970	28.0000	2.0000		ARMENT. PR119,2068-60	
	7.124	1.920	2.700	25.6000	.6000		COMINGS BAPS12,470-67	
	7.275	2.001	2.785	25.0000	4.0000		ARMENT. PR119,2068-60	
	7.659	2.205	3.000	21.2000	1.0000		GOLDSCH-GL. 84,CERN62	
	8.162	2.473	3.280	21.9000	1.1000		FERBEL PR137B,1250-65	
	8.742	2.782	3.600	20.9000	.8000		DEHNE PR136B,843-64	
	9.470	3.170	4.000	19.7500	.7300		CZYZEWSKI PL15,188-65	
	12.601	4.838	5.700	16.3000	.6000		BOCKMANN NC42A,954-66	
	14.828	6.025	6.900	14.7000	1.5000		KITAGAKI PRL21,175-68	
	14.902	6.065	6.940	14.2000	1.2000		FERBEL PR173,1307-68	
	15.386	6.323	7.200	13.7900	1.0000		FOLEY PRL11,503-63	
	16.876	7.117	8.000	12.7000	.7000		BIRNBAUM PRL23,663-69	
	18.654	8.011	8.900	13.8900	.3500		FOLEY PRL11,503-63	
	20.608	9.106	10.000	14.6000	3.3000		FOLEY PRL11,503-63	
	24.348	11.098	12.000	11.5900	.4100		FOLEY PRL11,503-63	
	31.836	15.089	16.000	9.1000	.5000		BIRNBAUM PRL23,663-69	
THRESHOLD	3.52	0.00	0.00				72 DATA POINTS LISTED	

FIT OF SIGMA AGAINST PLAB GEV/C

9 DATA POINTS USED ABOVE 5.0 GEV/C , PROB. = .91
K = 39.10 +- 9.07 N = -.50 +- .11

..... REACTION 3								
0 PRONG	3.533	.010	.110	27.8000	3.4000		LOKEN PL3,334-63	1
	3.537	.010	.125	18.5000	2.4000		LOKEN PL3,334-63	1
	3.545	.013	.154	15.6000	2.5000		LOKEN PL3,334-63	1
	3.630	.058	.334	24.4000	1.9000		AMALDI NC46A,171-66	
	3.655	.071	.372	18.7000	1.6000		AMALDI NC46A,171-66	
	3.677	.083	.403	20.8000	1.7000		AMALDI NC46A,171-66	
	3.696	.093	.428	19.8000	1.6000		BIZZARI NC54A,456-68	
	3.697	.093	.429	19.8000	1.6000		AMALDI NC46A,171-66	
	3.715	.103	.452	19.5000	1.2000		AMALDI NC46A,171-66	
	3.732	.112	.472	17.8000	1.2000		AMALDI NC46A,171-66	
	3.748	.121	.491	18.4000	1.5000		AMALDI NC46A,171-66	
	3.763	.129	.508	19.6000	1.5000		AMALDI NC46A,171-66	
	3.777	.136	.524	18.0000	1.4000		AMALDI NC46A,171-66	
	3.791	.144	.539	19.9000	1.1000		AMALDI NC46A,171-66	
	3.801	.149	.549	14.9000	1.4000		BIZZARI NC54A,456-68	
	3.804	.151	.553	14.9000	1.4000		AMALDI NC46A,171-66	
	3.818	.158	.567	15.7000	1.4000		AMALDI NC46A,171-66	
	3.831	.165	.580	15.7000	1.4000		AMALDI NC46A,171-66	
	3.842	.171	.592	14.5000	1.3000		AMALDI NC46A,171-66	
	3.855	.178	.604	16.4000	1.3000		AMALDI NC46A,171-66	
	4.575	.561	1.170	9.2000	.5000		COBRZ. COLL.DE FRANCE	
	8.162	2.473	3.280	4.0000	.4000		FERBEL PR137B,1250-65	
	8.851	2.840	3.660	4.5000	.4000		FERBEL PR137B,1250-65	
	12.601	4.838	5.700	3.3000	ERROR NOT GIVEN		BOCKMANN NC42A,954-66	
	14.828	6.025	6.900	2.5000	.2500		KITAGAKI PRL21,175-68	
	14.902	6.065	6.940	1.4000	.3000		FERBEL PR173,1307-68	
THRESHOLD	2.05	0.00	0.00				26 DATA POINTS LISTED	
..... REACTION 4								
2 PRONGS	4.575	.561	1.170	60.0000	3.0000		COBRZ. COLL.DE FRANCE	
	8.162	2.473	3.280	41.5000	1.3000		FERBEL PR137B,1250-65	
	8.851	2.840	3.660	37.3000	1.2000		FERBEL PR137B,1250-65	
	12.601	4.838	5.700	33.7000	ERROR NOT GIVEN		BOCKMANN NC42A,954-66	
	14.828	6.025	6.900	32.3000	1.6000		KITAGAKI PRL21,175-68	
	14.902	6.065	6.940	32.6000	2.0000		FERBEL PR173,1307-68	
THRESHOLD	2.05	0.00	0.00				6 DATA POINTS LISTED	
..... REACTION 5								
2 PRONGS INELASTIC	7.659	2.205	3.000	1.3400	.2700		GOLDSCH-GL. 84,CERN62	
THRESHOLD	4.04	.28	.77					
..... REACTION 6								
ANNIHILATION INTO 2 PRONGS	3.627	.056	.330	60.1000	3.1000		AMALDI NC46A,171-66	
	3.653	.070	.370	44.7000	2.7000		AMALDI NC46A,171-66	
	3.675	.082	.400	44.5000	2.6000		AMALDI NC46A,171-66	
	3.697	.094	.430	46.8000	2.5000		AMALDI NC46A,171-66	
	3.713	.102	.450	43.5000	1.9000		AMALDI NC46A,171-66	
	3.730	.111	.470	42.2000	1.9000		AMALDI NC46A,171-66	
	3.748	.121	.491	39.2000	2.2000		AMALDI NC46A,171-66	
	3.765	.130	.510	36.4000	2.0000		AMALDI NC46A,171-66	
	3.774	.134	.520	40.6000	2.1000		AMALDI NC46A,171-66	
	3.792	.144	.540	34.3000	1.7000		AMALDI NC46A,171-66	
	3.802	.149	.550	37.4000	2.2000		AMALDI NC46A,171-66	
	3.821	.160	.570	36.2000	2.1000		AMALDI NC46A,171-66	
	3.831	.165	.580	36.6000	2.1000		AMALDI NC46A,171-66	

****

FOOTNOTES

1=AVERAGE VALUE OVER A BAND OF MOMENTA

********** APP **********

	S	K.ENERGY	PLAB		CROSS SECTION	ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 6									
ANNIHILATION INTO 2 PRONGS	3.840	.170	.590		35.6000	2.CCCC		AMALDI NC46A,171-66	
(CONTINUATION)	3.851	.175	.600		36.2000	2.0000		AMALDI NC46A,171-66	
	7.659	2.205	3.000		10.2000	.75CC		GELDSCH-CL. 84,CERN62	
	8.108	2.444	3.25C	U	13.COCO	1.COCC		FERBEL,76,CERN62	L
THRESHOLD	.08	C.CO	C.CC					17 DATA POINTS LISTED	
					FIT OF SIGMA AGAINST PLAB GEV/C				
					16 DATA POINTS USED ABOVE .3 GEV/C , PROB. =1.00				
					K = 23.43 +- 1.3C N = -.76 +- .C7				
..... REACTION 7									
4 PRONGS	4.253	.390	.940		34.2000	.70CC		BURAS,NPB27,109-71	
	4.575	.561	1.17C		32.4CCC	2.CCCC		CCBRZ. CCLL.DE FRANCE	
	4.584	.566	1.176		31.6CCC	1.CCCC		CONALD NPB11,551-69	
	8.162	2.473	3.280		22.9000	.9CCC		FERBEL PR137B,1250-65	
	8.851	2.840	3.660		21.6000	.9000		FERBEL PR137B,1250-65	
	12.601	4.838	5.70C		17.3CCC	.7CCC		ALLES-B. NC48A,360-67	
	14.828	6.025	6.9CC		18.7CCC	1.CCCC		KITAGAKI PRL21,175-68	
	14.902	6.065	6.940		16.6000	1.5CCC		FERBEL PR173,1307-68	
THRESHOLD	2.93	C.CO	C.CC					8 DATA POINTS LISTED	
					FIT OF SIGMA AGAINST PLAB GEV/C				
					7 DATA POINTS USED ABOVE 1.C GEV/C , PROB. = .93				
					K = 33.69 +- 2.C3 N = -.35 +- .C5				
..... REACTION 8									
4 PRONGS INELASTIC	8.1C8	2.444	3.25C		4.3CCC	.2CCC		FERBEL ,76,CERN62	
THRESHOLD	5.25	.92	1.60						
..... REACTION 9									
ANNIHILATION INTO 4 PRONGS	3.627	.056	.330		67.1000	3.3CCC		AMALDI NC46A,171-66	
	3.653	.C70	.370		57.7CCC	3.1CCC		AMALDI NC46A,171-66	
	3.675	.082	.4CC		59.4CCC	3.CCCC		AMALDI NC46A,171-66	
	3.697	.094	.43C		55.6CCC	2.8CCC		AMALDI NC46A,171-66	
	3.713	.102	.450		52.0000	2.1CCC		AMALDI NC46A,171-66	
	3.730	.111	.47C		49.6000	2.1CCC		AMALDI NC46A,171-66	
	3.747	.120	.49C		48.CCCC	2.5CCC		AMALDI NC46A,171-66	
	3.765	.130	.51C		46.5000	2.3CCC		AMALDI NC46A,171-66	
	3.774	.134	.520		48.6000	2.3CCC		AMALDI NC46A,171-66	
	3.792	.144	.54C		44.4CCC	1.9CCC		AMALDI NC46A,171-66	
	3.802	.149	.55C		46.7CCC	2.5CCC		AMALDI NC46A,171-66	
	3.821	.160	.570		48.CCCC	2.5CCC		AMALDI NC46A,171-66	
	3.831	.165	.580		42.7000	2.3CCC		AMALDI NC46A,171-66	
	3.840	.170	.590		41.8CCC	2.2CCC		AMALDI NC46A,171-66	
	3.851	.175	.6CC		41.5CCC	2.1CCC		AMALDI NC46A,171-66	
THRESHOLD	.31	0.CO	0.00					15 DATA POINTS LISTED	
					FIT OF SIGMA AGAINST PLAB GEV/C				
					15 DATA POINTS USED ABOVE .3 GEV/C , PROB. =1.CC				
					K = 28.89 +- 3.22 N = -.75 +- .15				
..... REACTION 10									
6 PRONGS	4.575	.561	1.17C		5.9CCC	.4CCC		CCBRZ. CCLL.DE FRANCE	
	7.659	2.205	3.CCC		7.1CCC	.2CCC		DANYSZ NC51A,801-67	
	8.162	2.473	3.280		6.6000	.4CCC		FERBEL PR137B,1250-65	
	8.724	2.772	3.590		7.2600	.27CC		ATHERT. NP B18,221-70	
	8.851	2.840	3.66C		7.7CCC	.4CCC		FERBEL PR137B,1520-65	
	12.6C1	4.838	5.7CC		6.21CC	.1CCC		FRIDMAN PR167,1268-68	
	14.828	6.025	6.900		7.6000	.5CCC		KITAGAKI PRL21,175-68	
	14.902	6.065	6.940		6.9CCC	.8CCC		FERBEL PR173,1307-68	
THRESHOLD	3.97	.24	.71					8 DATA POINTS LISTED	
..... REACTION 11									
ANNIHILATION INTO 6 PRONGS	3.627	.056	.330		5.7000	.9CCC		AMALDI NC46A,171-66	
	3.653	.070	.370		7.7000	1.COCC		AMALDI NC46A,171-66	
	3.675	.082	.400		5.3CCC	.8CCC		AMALDI NC46A,171-66	
	3.697	.094	.43C		5.9CCC	.9CCC		AMALDI NC46A,171-66	
	3.713	.102	.450		4.2CCC	.5CCC		AMALDI NC46A,171-66	
	3.730	.111	.470		5.1000	.6CCC		AMALDI NC46A,171-66	
	3.747	.120	.490		5.CCCC	.8CCC		AMALDI NC46A,171-66	
	3.765	.130	.51C		3.5CCC	.6CCC		AMALDI NC46A,171-66	
	3.774	.134	.520		4.1CCC	.7CCC		AMALDI NC46A,171-66	
	3.792	.144	.540		5.0000	.6CCC		AMALDI NC46A,171-66	
	3.802	.149	.550		4.1CCC	.7CCC		AMALDI NC46A,171-66	
	3.821	.160	.57C		4.2CCC	.7CCC		AMALDI NC46A,171-66	
	3.831	.165	.580		5.5CCC	.8CCC		AMALDI NC46A,171-66	
	3.840	.170	.590		3.9000	.7CCC		AMALDI NC46A,171-66	
	3.851	.175	.600		3.4CCC	.6CCC		AMALDI NC46A,171-66	
	14.902	6.065	6.94C		5.47CC	.27CC		ALEXANCE,NPB 8557 7	
THRESHOLD	.71	0.00	0.00					16 DATA POINTS LISTED	

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FOOTNOTES

U=UPPER LIMIT

APP

	S	K.ENERGY	PLAB	CROSS SECTION	ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 12								
0 PR.+ANN.INTO2,4,6 PRONGS	3.630	.058	.334	157.4000	5.3000		AMALDI NC46A,171-66	6
	3.655	.071	.372	128.8000	5.1000		AMALDI NC46A,171-66	6
	3.677	.083	.403	130.0000	4.9000		AMALDI NC46A,171-66	6
	3.697	.093	.429	128.1000	4.6000		AMALDI NC46A,171-66	6
	3.715	.103	.452	119.2000	3.4000		AMALDI NC46A,171-66	6
	3.732	.112	.472	114.7000	3.3000		AMALDI NC46A,171-66	6
	3.748	.121	.491	110.6000	3.9000		AMALDI NC46A,171-66	6
	3.763	.129	.508	106.0000	3.7000		AMALDI NC46A,171-66	6
	3.777	.136	.524	111.3000	3.6000		AMALDI NC46A,171-66	6
	3.791	.144	.539	99.6000	3.0000		AMALDI NC46A,171-66	6
	3.804	.151	.553	103.1000	3.7000		AMALDI NC46A,171-66	6
	3.818	.158	.567	104.1000	3.6000		AMALDI NC46A,171-66	6
	3.831	.165	.580	100.5000	3.4000		AMALDI NC46A,171-66	6
	3.842	.171	.592	95.8000	3.3000		AMALDI NC46A,171-66	6
	3.855	.178	.604	97.5000	3.2000		AMALDI NC46A,171-66	6
THRESHOLD	.07	0.00	0.00				15 DATA POINTS LISTED	
				FIT OF SIGMA AGAINST PLAB GEV/C				
				15 DATA POINTS USED ABOVE .3 GEV/C , PROB. =1.00				
				K = 65.34 +- 4.98 N = -.76 +- .10				
..... REACTION 13								
8 PRONGS	7.659	2.205	3.000	.3200	.0300		DANYSZ NC51A,801-67	
	8.162	2.473	3.280	.4400	.1000		FERBEL PR137B,1250-65	
	8.742	2.782	3.600	.4800	.0300		DANYSZ NC51A,801-67	
	8.851	2.840	3.660	.6000	.1000		FERBEL PR137B,1250-65	
	12.601	4.838	5.700	.9600	.0300		FRIEDMAN PR176,1595-68	
	14.828	6.025	6.900	2.0000	.2200		KITAGAKI PRL21,175-68	
	14.902	6.065	6.940	1.2000	.5000		FERBEL PR173,1307-68	
THRESHOLD	5.17	.88	1.55				7 DATA POINTS LISTED	
..... REACTION 14								
ANNIHILATION INTO 8 PRONGS	14.902	6.065	6.940	1.7700	.1000		BAR-NIR,NPB20,45-70	
THRESHOLD	1.25	0.00	0.00					
..... REACTION 15								
8 PRONGS (AND HIGHER)	12.601	4.838	5.700	1.2000	ERROR NOT GIVEN		BOCKMANN NC42A,954-66	
THRESHOLD	1.25	0.00	0.00					
..... REACTION 16								
10 PRONGS	7.659	2.205	3.000	6.0000 MICROB	4.0000		DANYSZ NC51A,801-67	
	8.742	2.782	3.600	.0130	.0050		DANYSZ NC51A,801-67	
THRESHOLD	6.52	1.60	2.36				2 DATA POINTS LISTED	
..... REACTION 17								
ANNIHIL. INTO 10 PRONGS	14.902	6.065	6.940	.1400	.0200		BAR-NIR,NPB20,45-70	
THRESHOLD	1.96	0.00	0.00					
..... REACTION 18								
TOTAL ANNIHILATION	3.533	.010	.110	192.0000	34.0000		LOKEN PL3,334-63	1
	3.537	.010	.125	155.0000	27.0000		LOKEN PL3,334-63	1
	3.545	.013	.154	118.0000	26.0000		LOKEN PL3,334-63	1
	3.578	.030	.240	184.0000	22.0000		SPENCER,NPB19,501-70	
	3.596	.040	.276	142.0000	18.0000		SPENCER,NPB19,501-70	
	3.630	.058	.334	133.0000	4.8000		AMALDI NC46A,171-66	
	3.653	.070	.370	100.0000	30.0000		SPENCER,NPB19,501-70	
	3.655	.071	.372	110.1000	4.6000		AMALDI NC46A,171-66	
	3.677	.083	.403	109.2000	4.4000		AMALDI NC46A,171-66	
	3.697	.093	.429	108.3000	4.1000		AMALDI NC46A,171-66	
	3.715	.103	.452	99.7000	3.1000		AMALDI NC46A,171-66	
	3.732	.112	.472	96.9000	3.0000		AMALDI NC46A,171-66	
	3.748	.121	.491	92.2000	3.5000		AMALDI NC46A,171-66	
	3.763	.129	.508	86.4000	3.2000		AMALDI NC46A,171-66	
	3.777	.136	.524	93.3000	3.3000		AMALDI NC46A,171-66	
	3.791	.144	.539	83.7000	2.7000		AMALDI NC46A,171-66	
	3.804	.151	.553	88.2000	3.4000		AMALDI NC46A,171-66	
	3.818	.158	.567	88.4000	3.3000		AMALDI NC46A,171-66	
	3.831	.165	.580	84.8000	3.2000		AMALDI NC46A,171-66	
	3.842	.171	.592	81.3000	3.0000		AMALDI NC46A,171-66	
	3.855	.178	.604	81.1000	2.9000		AMALDI NC46A,171-66	
	5.257	.925	1.610	51.0000	3.0000		LYNCH PR131,1276-63	
	12.601	4.838	5.700	22.0000	2.0000		BOCKMANN NC44A,316-66	
	14.902	6.065	6.940	25.0000	5.0000		FERBEL PR173,1307-68	
THRESHOLD	.08	0.00	0.00				24 DATA POINTS LISTED	
				FIT OF SIGMA AGAINST PLAB GEV/C				
				19 DATA POINTS USED ABOVE .3 GEV/C , PROB. = .99				
				K = 61.76 +- 2.32 N = -.60 +- .05				
..... REACTION 19								
INELASTIC	5.257	.925	1.610	5.3000	1.0000		XUONG PR124,575-61	
	12.601	4.838	5.700	25.3000	2.0000		BOCKMANN NC44A,316-66	
THRESHOLD	.17	0.00	0.00				2 DATA POINTS LISTED	
..... REACTION 20								
INELASTIC+ ANNIHILATION	4.524	.534	1.135	70.0000	3.0000		ELIOFF PR128,869-62	
	4.835	.700	1.343	66.0000	3.0000		ELIOFF PR128,869-62	
	5.054	.817	1.483	63.0000	3.0000		ELIOFF PR128,869-62	
	5.301	.949	1.637	56.0000	2.0000		ELIOFF PR128,869-62	
	5.388	.995	1.690	62.0000	3.0000		ARMENT. PR119,2068-60	
	5.527	1.069	1.774	60.0000	2.0000		ELIOFF PR128,869-62	
	5.872	1.253	1.980	57.0000	4.0000		ARMENT. PR119,2068-60	
	7.284	2.005	2.790	49.0000	6.0000		ARMENT. PR119,2068-60	
	8.162	2.473	3.280	53.5000	2.3000		FERBEL PR137B,1250-65	
THRESHOLD	.17	0.00	0.00				9 DATA POINTS LISTED	

FOOTNOTES

6=FINAL STATE IS A 0 PRONG + ANNIHILATION INTO 2,4 AND 6 PRONGS
1=AVERAGE VALUE OVER A BAND OF MOMENTA

********** APP **********

	S	K.ENERGY	PLAB		CROSS SECTION		ERROR +	ERROR -		REFERENCE	FOOT-NOTES
..... REACTION 21 ..... ANNIHIL.INTO PI+PI-/K+K-	8.162	2.473	3.280	U	.0250					FERBEL PR137B,1250-65	U
THRESHOLD	.08	0.00	0.00								
..... REACTION 22 ..... ANNIHIL.INTO K MESONS	5.257	.925	1.610		3.4000		.5000			LYNCH PR131,1276-63	
THRESHOLD	.97	C.00	C.CC								
..... REACTION 23 ..... ANNIHILATION INTO K AND PI	8.162	2.473	3.280		2.9000		.2000			FERBEL PR137B,1250-65	
	8.851	2.840	3.660		2.3000		.3000			FERBEL PR137B,1250 65	
THRESHOLD	.08	0.00	0.00							2 DATA POINTS LISTED	
..... REACTION 24 ..... ANNIHILATION INTO 4 PI	8.108	2.444	3.250		.7000		.1000			FERBEL,76,CERN62	
THRESHOLD	.31	C.00	C.CC								
..... REACTION 25 ..... ANNIHILATION INTO 5 PI	8.108	2.444	3.250		4.0500		.3000			FERBEL,76,CERN62	
THRESHOLD	.48	0.00	0.00								
..... REACTION 26 ..... GT 5 PIONS ANNIHILATION	8.108	2.444	3.250		12.1500		.5000			FERBEL,76,CERN62	
THRESHOLD	.71	C.00	C.CC								
..... REACTION 27 ..... ANNIHILATION INTO PIONS	8.162	2.473	3.280		30.9000		3.0000			FERBEL PR137B,1250-65	
	15.014	6.124	7.000	L	23.6000		3.4000			FERBEL NC38,12-65	L
THRESHOLD	.08	0.00	0.00							2 DATA POINTS LISTED	
..... REACTION 28 ..... PI PROD. WITHOUT ANNIHIL.	8.162	2.473	3.280		19.2000		2.0000			FERBEL PR137B,1250-65	
	8.742	2.782	3.600		9.8000		2.1000	2.6000		DEHNE PR136B,843-64	
	15.014	6.124	7.000	L	19.5000		2.8000			FERBEL NC38,12-65	L
THRESHOLD	4.04	.28	.77							3 DATA POINTS LISTED	
..... REACTION 29 ..... NUCLEON-ANTINUCLEON+PIONS	8.162	2.473	3.280		19.2000		2.0000			FERBEL PR138B,1528-65	
	8.742	2.782	3.600		18.6000		2.4000	3.3000		DEHNE PR136B,843-64	
THRESHOLD	3.52	C.00	0.00							2 DATA POINTS LISTED	
..... REACTION 30 ..... SINGLE PION PRODUCTION	8.162	2.473	3.280		8.6000		1.5000			FERBEL PR137B,1250-65	
	8.742	2.782	3.600		8.7000		1.1000	2.1000		DEHNE PR136B,843-64	
	15.014	6.124	7.000		5.6000		1.2000			FERBEL NC38,12-65	A
THRESHOLD	4.04	.28	.77							3 DATA POINTS LISTED	
..... REACTION 31 ..... PION PRODUCTION	14.902	6.065	6.940		14.0000		4.0000			FERBEL PR173,1307-68	
THRESHOLD	.17	C.00	C.CC								
..... REACTION 32 ..... MESON PRODUCTION 2 PRONGS	8.108	2.444	3.250	L	8.0000		1.0000			FERBEL,76,CERN62	L
THRESHOLD	.17	0.00	0.00								
..... REACTION 33 ..... STRANGE PARTICLES	14.902	6.065	6.940		5.0000		1.5000			FERBEL PR173,1307-68	
THRESHOLD	.97	C.00	C.CC								
..... REACTION 34 ..... HYPERONS	8.108	2.444	3.250		.4300		.0520			BALTAY PR140B,1027-65	
	8.162	2.473	3.280		.4400		.0500			FERBEL PR137B,1250-65	
	8.851	2.840	3.660		.7100		.0800			FERBEL PR137B,1250-65	
	8.924	2.879	3.700		.7200		.0300			BALTAY PR140B,1027-65	
	15.014	6.124	7.000		1.3100		.1050			CHIEN PR152,1171-66	
THRESHOLD	4.97	.77	1.43							5 DATA POINTS LISTED	
..... REACTION 35 ..... PPAPAP	14.902	6.065	6.940	L	.0150					FERBEL PR173,1307-68	L
THRESHOLD	14.08	5.63	6.50								
..... REACTION 36 ..... PPI+PI-AP	6.283	1.472	2.220		.1500		ERROR NOT GIVEN			MURPHY BAPS13,1641-68	$
	6.457	1.564	2.320		.9000		ERROR NOT GIVEN			MURPHY BAPS13,1641-68	
	6.596	1.639	2.400		1.5000		.0700			JESPERSEN,PR1,2483-70	
	6.771	1.732	2.500		1.3700		.0700			MASON,NPB3C,617-71	
	7.124	1.920	2.700		1.9300		.1600			KERNAN,PR1,48-70	
	7.124	1.920	2.700		1.9300		.1600			CRAWLEY PR154,1264-67	
	7.480	2.110	2.900		2.5700		.1000			JESPERSEN,PR1,2483-70	
	8.162	2.473	3.280		3.4300		.2300			FERBEL PR138B,1528-65	
	8.742	2.782	3.600		3.8000		.2000			DEHNE PR136B,843-64	
	8.851	2.840	3.660		3.6700		.3000			FERBEL PR138B,1528-65	
	12.601	4.838	5.700		3.3100		.1600			ALLES-B. NC46A,360-67	
	14.902	6.065	6.940		2.7000		.3000			FERBEL PR173,1307-68	
THRESHOLD	4.65	.60	1.22							12 DATA POINTS LISTED	
..... REACTION 37 ..... PPI+PI-AP (NON RESONANT)	6.596	1.639	2.400		.1500		.1500			JESPERSEN,PR1,2483-70	
	7.124	1.920	2.700		.0960		.0970			KERNAN,PR1,48-70	
	7.480	2.110	2.900		.1285		.1286			JESPERSEN,PR1,2483-70	
THRESHOLD	4.65	.60	1.22							3 DATA POINTS LISTED	

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FOOTNOTES

U=UPPER LIMIT
L=LOWER LIMIT
A=SUM OF ALL FINAL STATES WHICH INCLUDE THE GIVEN PARTICLES
$=DATA POINT NOT USED IN FITTING OR PLOTTING

APP

		S	K.ENERGY	PLAB		CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 38											
PPI+PI-PI-AN		6.596	1.639	2.400		.0170		.0100		JESPERSEN,PR1,2483-70	
		6.771	1.732	2.500		2.0000	MICROB	2.0000		MASON,NPB30,617-71	
		7.480	2.110	2.900		.1270		.0700		JESPERSEN,PR1,2483-70	
		8.162	2.473	3.280		.1800		.0600		FERBEL PR138B,1528-65	
		8.742	2.782	3.600		.5000		.3000		DEHNE PR136B,843-64	
		8.851	2.840	3.660		.1600		.0700		FERBEL PR138B,1528-65	
		12.601	4.838	5.700		.6000		.4000	.2000	BOCKMANN NC42A,954-66	
	THRESHOLD	5.28	.94	1.62						7 DATA POINTS LISTED	
..... REACTION 39											
PPI+2PI-AN CC		14.902	6.065	6.940	U	1.6000				FERBEL PR173,1307-68	U
	THRESHOLD	5.28	.94	1.62							
..... REACTION 40											
PPI+PI-PIOAP		6.596	1.639	2.400		.0100		.0050		JESPERSEN,PR1,2483-70	
		6.771	1.732	2.500		.0100		.0050		MASON,NPB30,617-71	
		7.480	2.110	2.900		.1240		.0400		JESPERSEN,PR1,2483-70	
		8.162	2.473	3.280		.3000		.1000		FERBEL PR138B,1528-65	
		8.742	2.782	3.600		.6000		.1000		DEHNE PR136B,843-64	
		8.851	2.840	3.660		.5000		.1000		FERBEL PR138B,1528-65	
		12.601	4.838	5.700		2.1600		.1400		ALLES-B. NC46A,438-66	
		14.902	6.065	6.940		1.3000		.3000		FERBEL PR173,1307-68	
	THRESHOLD	5.27	.93	1.62						8 DATA POINTS LISTED	
..... REACTION 41											
PPI+PIOAN*--1236		12.601	4.838	5.700		.1450		.0800		ALLES-B. NC46A,438-66	
	THRESHOLD	6.02	1.33	2.07							
..... REACTION 42											
PPI-AN		5.257	.925	1.610		1.1900		.1600		LYNCH PR131,1276-63	
		7.124	1.920	2.700		2.7200		.0900		SEARS PL29B,700-69	
		7.659	2.205	3.000		1.9700		.2600		CZYZEWSKI,271,SIE63	
		8.162	2.473	3.280		2.0000		.4000		FERBEL PR138B,1528-65	
		8.742	2.782	3.600		2.6000		.4000		DEHNE PR136B,843-64	
		9.470	3.170	4.000		2.4200		.1700		CZYZEWSKI,148,DUB64	
		12.601	4.838	5.700		1.7700		.3700		BOCKMANN NC42A,954-66	
		14.902	6.065	6.940		1.1000		.3000		FERBEL PR173,1307-68	
	THRESHOLD	4.07	.29	.80						8 DATA POINTS LISTED	
..... REACTION 43											
PPIOAP		5.257	.925	1.610		1.8500		.2200		LYNCH PR131,1276-63	
		7.124	1.920	2.700		2.6700		.0900		SEARS PL29B,700-69	
		7.659	2.205	3.000		2.7900		.3900		GOLDSCH-CL. 84,CERN62	
		8.162	2.473	3.280		2.3000		.5000		FERBEL PR138B,1528-65	
		8.742	2.782	3.600		1.9000		.3000		DEHNE PR136B,843-64	
		9.470	3.170	4.000		2.0600		.1600		CZYZEWSKI,148,DUB64	
		12.601	4.838	5.700		2.1000		.2300		BOCKMANN NC42A,954-66	
		14.902	6.065	6.940		1.3000		.3000		FERBEL PR173,1307-68	
	THRESHOLD	4.06	.29	.79						8 DATA POINTS LISTED	
..... REACTION 44											
P2PI+3PI-AN		14.902	6.065	6.940	U	2.0000				FERBEL PR173,1307-68	U
	THRESHOLD	6.65	1.67	2.43							
..... REACTION 45											
P2PI+2PI-PIOAP		14.902	6.065	6.940		.1400		.0300		FERBEL PR173,1307-68	
	THRESHOLD	6.64	1.66	2.42							
..... REACTION 46											
P2PI+2PI-AP		8.162	2.473	3.280	L	.0100				FERBEL PR137B,1250 65	L
		12.601	4.838	5.700		.1300		.0300		BOCKMANN NC42A,954-66	
		14.902	6.065	6.940		.2600		.0400		FERBEL PR173,1307-68	
	THRESHOLD	5.93	1.29	2.02						3 DATA POINTS LISTED	
..... REACTION 47											
PETAP=PPI+PI-PIOAP		12.601	4.838	5.700		.0430		.0080		ALLES-B. NC46A,438-66	
	THRESHOLD	5.89	1.26	1.99							
..... REACTION 48											
POMAP		8.742	2.782	3.600		.0600		.0200		DEHNE PR136B,843-64	
	THRESHOLD	7.07	1.89	2.67							
..... REACTION 49											
POMAP=PPI+PI-PIOAP		12.601	4.838	5.700		.2330		.0360		ALLES-B. NC46A,438-66	
	THRESHOLD	7.07	1.89	2.67							
..... REACTION 50											
(P/N)PIA(P/N)		7.659	2.205	3.000		7.5500		.8800		GOLDSCH-CL. 84,CERN62	
	THRESHOLD	4.06	.29	.79							
..... REACTION 51											
((P(AP/AN)/NAP)5PI		12.601	4.838	5.700		.0300		.0300	.0100	BOCKMANN NC42A,954-66	
	THRESHOLD	6.63	1.65	2.42							
..... REACTION 52											
((P(AP/AN)/NAP)5PIMP10		12.601	4.838	5.700		.1100		.0300		BOCKMANN NC42A,954-66	
	THRESHOLD	8.13	2.46	3.26							

FOOTNOTES

U=UPPER LIMIT
L=LOWER LIMIT

APP

	S	K.ENERGY	PLAB	CROSS SECTION	ERROR +	ERROR -	REFERENCE	FOOTNOTES
..... REACTION 53 ..... NPI+PI+PI-AP								
	6.596	1.639	2.400	.0140	.0100		JESPERSEN,PR1,2483-70	
	6.771	1.732	2.500	.0100	.0050		MASON,NPB3C,617-71	
	7.480	2.110	2.900	.1430	.0700		JESPERSEN,PR1,2483-70	
	8.162	2.473	3.280	.1100	.0400		FERBEL PR138B,1528-65	
	8.742	2.782	3.600	.6000	.3000		DEHNE PR136B,843-64	
	8.851	2.840	3.660	.2300	.0800		FERBEL PR138B,1528-65	
	12.601	4.838	5.700	.9500	.2100		BOCKMANN NC42A,954-66	
THRESHOLD	5.28	.94	1.62				7 DATA POINTS LISTED	
..... REACTION 54 ..... NPI+PI-AN								
	8.560	2.685	3.500	2.0000	.7000		CZYZEWSK. PL20,554-66	1
THRESHOLD	4.67	.61	1.23					
..... REACTION 55 ..... NPI+AP								
	5.257	.925	1.610	1.0000	.1600		LYNCH PR131,1276-63	
	7.124	1.920	2.700	2.6500	.0900		SEARS PL29B,700-69	
	7.659	2.205	3.000	2.4600	.3700		GELOSCH-CL. 64,CERN62	
	8.162	2.473	3.280	2.0000	.4000		FERBEL PR138B,1528-65	
	8.742	2.782	3.600	2.2000	.4000		DEHNE PR136B,843-64	
	9.470	3.170	4.000	2.4200	.1700		CZYZEWSKI,148,DUB64	
	12.601	4.838	5.700	1.8200	.3400		BOCKMANN NC42A,954-66	
	14.902	6.065	6.940	1.1000	.3000		FERBEL PR173,1307-68	
THRESHOLD	4.07	.29	.80				8 DATA POINTS LISTED	
..... REACTION 56 ..... NPI+AP CC								
	8.162	2.473	3.280	4.0000	.6000		FERBEL PR137B,1250-65	
	15.014	6.124	7.000	3.0000	.6000		FERBEL PR137B,1250-65	
THRESHOLD	4.07	.29	.80				2 DATA POINTS LISTED	
..... REACTION 57 ..... NAN								
	3.527	.010	.077	25.0000	10.0000		LOKEN PL3,334-63	1
	3.533	.010	.110	21.1000	3.6000		LOKEN PL3,334-63	1
	3.537	.010	.125	13.1000	2.6000		LOKEN PL3,334-63	1
	3.545	.013	.154	11.5000	2.7000		LOKEN PL3,334-63	1
	3.696	.093	.428	14.7000	1.6000		BIZZARI NC54A,456-68	
	3.801	.149	.549	11.4000	1.2000		BIZZARI NC54A,456-68	
	4.524	.534	1.135	6.0000	1.3000		ELIOFF PR128,869-62	
	4.835	.700	1.343	7.2000	1.5000		ELIOFF PR128,869-62	
	5.054	.817	1.483	7.1000	1.2000		ELIOFF PR128,869-62	
	5.257	.925	1.610	6.0000	1.0000		BERKELEY-66	
	5.267	.930	1.616	7.8000	.6000		HINRICHS UCRL9585-61	
	5.301	.949	1.637	6.8000	1.0000		ELIOFF PR128,869-62	
	5.388	.995	1.690	5.0000	1.0000	1.5000	ARMENT. PR119,2068-60	
	5.527	1.069	1.774	5.7000	1.1000		ELIOFF PR128,869-62	
	5.855	1.244	1.970	4.0000	1.0000		ARMENT. PR119,2068-60	
	7.275	2.001	2.785	6.0000	2.0000	3.0000	ARMENT. PR119,2068-60	
	7.659	2.205	3.000	2.4000	.7000		CZYZEWSKI,271,SIE63	
	8.560	2.685	3.500	2.0000	.6000		CZYZEWSK. PL20,554-66	1
	11.307	4.149	5.000	.5980	.0860		ASTBURY PL23,160-66	
	13.157	5.135	6.000	.5630	.0820		ASTBURY PL23,160-66	
	15.014	6.124	7.000	.3730	.0540		ASTBURY PL23,160-66	
	18.741	8.111	9.000	.2840	.0410		ASTBURY PL23,160-66	
THRESHOLD	3.53	.01	.11				22 DATA POINTS LISTED	

FIT OF SIGMA AGAINST PLAB GEV/C

13 DATA POINTS USED ABOVE 1.5 GEV/C , PROB. = .98
K = 18.40 +- 2.95 N = -1.97 +- .13

..... REACTION 58 ..... NAN/NP10AN	5.257	.925	1.610	7.8000	.5500		XUONG PR128,1849-62	
THRESHOLD	3.53	.00	.10					
..... REACTION 59 ..... N***1236PI+2PI-AP CC	14.902	6.065	6.940	.2100	.0600		FERBEL PR173,1307-68	
THRESHOLD	6.73	1.71	2.48					
..... REACTION 60 ..... N***1236PI-P10AP	12.601	4.838	5.700	.1450	.0800		ALLES-B. NC46A,438-66	
THRESHOLD	6.02	1.33	2.07					
..... REACTION 61 ..... N***1236PI-P10AP CC	14.902	6.065	6.940	.4400	.0200		FERBEL PR173,1307-68	
THRESHOLD	6.02	1.33	2.07					
..... REACTION 62 ..... N***1236PI-AP CC	6.596	1.639	2.400	0.0000 MICROB	150.0000		JESPERSEN,PR1,2483-70	$
	7.124	1.920	2.700	0.0000 MICROB	38.0000		KERNAN,PR1,48-70	$
	7.480	2.110	2.900	0.0000 MICROB	102.0000		JESPERSEN,PR1,2483-70	$
	14.902	6.065	6.940	.5400	.3000		FERBEL PR173,1307-68	
THRESHOLD	5.35	.98	1.67				4 DATA POINTS LISTED	
..... REACTION 63 ..... N***1236P10AN*--1236	12.601	4.838	5.700	.5800	.0950		ALLES-B. NC46A,438-66	
THRESHOLD	6.82	1.76	2.53					
..... REACTION 64 ..... N***1236AN*--1236	6.596	1.639	2.400	1.3500	.1000		JESPERSEN,PR1,2483-70	
	7.124	1.920	2.700	1.8330	.1850		KERNAN,PR1,48-70	
	7.480	2.110	2.900	1.2850	.0700		JESPERSEN,PR1,2483-70	
	12.601	4.838	5.700	2.0800	.1400		ALLES-B. NC48A,360-67	
	14.902	6.065	6.940	1.3500	.2000		FERBEL PR173,1307-68	
THRESHOLD	6.11	1.38	2.12				5 DATA POINTS LISTED	

FOOTNOTES

1=AVERAGE VALUE OVER A BAND OF MOMENTA
$=DATA POINT NOT USED IN FITTING OR PLOTTING

APP

	S	K.ENERGY	PLAB	CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 65									
N01520PI+AP=PPI+PI-AP CC	12.601	4.838	5.700	.1460		.0400		ALLES-B. NC47A,232-67	
THRESHOLD	6.74	1.72	2.48						
..... REACTION 66									
N01520PI+AP=P3PIAP CC	12.601	4.838	5.700	.1170		.0260		ALLES-B. NC47A,232-67	
THRESHOLD	6.74	1.72	2.48						
..... REACTION 67									
N01520PI+AP=(P/N)3PIAP CC	12.601	4.838	5.700	.1760		.0880	.0350	ALLES-B. NC47A,232-67	
THRESHOLD	6.74	1.72	2.48						
..... REACTION 68									
N+1688AP=PPI+PI-AP CC	12.601	4.838	5.700	.2420		.0420		ALLES-B. NC47A,232-67	
THRESHOLD	6.90	1.80	2.57						
..... REACTION 69									
LPI+PI+PI-PI-AL	14.884	6.055	6.930	8.0000	MICROB	4.0000		CHIEN PR152,1171-66	
THRESHOLD	7.78	2.27	3.07						
..... REACTION 70									
LPI+PI-AL	7.124	1.920	2.700	3.0000	MICROB	2.0000		FISHER PR161,1335-65	
	8.108	2.444	3.250	.0150		.0060		BALTAY PR140B,1027-66	
	8.924	2.879	3.700	.0270		.0040		BALTAY PR140B,1027-66	
	12.601	4.838	5.700	.0360		.0040		ATHERTON,NPB29,477-71	
	14.884	6.055	6.930	.0590		.0120		CHIEN PR152,1171-66	
THRESHOLD	6.30	1.48	2.22					5 DATA POINTS LISTED	
..... REACTION 71									
LPIOAL	6.656	1.670	2.434	.0190		.0050		BADIER PL25B,152-67	
	7.124	1.920	2.700	.0650		.0250		FISHER PR161,1335-65	
	7.659	2.205	3.000	.0500		.0100		MUSGRAVE NC35,735-65	
	7.659	2.205	3.000	.0410		.0170		ARMENTEROS,236,CERN62	
	8.742	2.782	3.600	.0620		.0160		MUSGRAVE NC35,735-65	
	9.470	3.170	4.000	.0600		.0140		MUSGRAVE NC35,735-65	
	12.601	4.838	5.700	.0290		.0350		ATHERTON,NPB29,477-71	
THRESHOLD	5.62	1.12	1.83					7 DATA POINTS LISTED	
..... REACTION 72									
LK+PI+PI-AP CC	14.884	6.055	6.930	8.0000	MICROB	3.0000		CHIEN PR152,1171-66	
THRESHOLD	7.99	2.38	3.19						
..... REACTION 73									
LK+PI-AN	12.601	4.838	5.700	.0180		.0030		BOCK PL17,166-65	
THRESHOLD	7.23	1.98	2.76						
..... REACTION 74									
LK+PIOAP	12.601	4.838	5.700	.0300		.0030		BOCK PL17,166-65	
THRESHOLD	7.22	1.97	2.75						
..... REACTION 75									
LK+AP	7.124	1.920	2.700	2.3000	MICROB	2.3000		FISHER PR161,1335-65	
THRESHOLD	6.49	1.58	2.34						
..... REACTION 76									
LK+AP CC	7.659	2.205	3.000	.0230		.0080		MUSGRAVE NC35,735-65	
	8.742	2.782	3.600	.0170		.0060		MUSGRAVE NC35,735-65	
	8.924	2.879	3.700	.0290		.0050		BALTAY PR140B,1027-65	
	9.470	3.170	4.000	.0420		.0140		MUSGRAVE NC35,735-65	
	12.601	4.838	5.700	.0290		.0040		BOCK PL17,166-65	
	14.884	6.055	6.930	.0710		.0140		CHIEN PR152,1171-66	
THRESHOLD	6.49	1.58	2.34					6 DATA POINTS LISTED	
..... REACTION 77									
LKOPI+PI-AN	14.884	6.055	6.930	6.0000	MICROB	3.0000		CHIEN PR152,1171-66	
THRESHOLD	8.00	2.39	3.19						
..... REACTION 78									
LKOPI+AP	12.601	4.838	5.700	.0390		.0040		BOCK PL17,166-65	
THRESHOLD	7.22	1.97	2.75						
..... REACTION 79									
LKOPI+AP CC	14.884	6.055	6.930	.0460		.0140		CHIEN PR152,1171-66	
THRESHOLD	7.22	1.97	2.75						
..... REACTION 80									
LKOAN	12.601	4.838	5.700	.0700		.0110		BOCK PL17,166-65	
THRESHOLD	6.50	1.59	2.34						
..... REACTION 81									
LKOAN CC	8.742	2.782	3.600	.0420		.0180		MUSGRAVE NC35,735-65	
	8.924	2.879	3.700	.0350		.0070		BALTAY PR140B,1027-65	
	9.470	3.170	4.000	.0610		.0200		MUSGRAVE NC35,735-65	
	14.884	6.055	6.930	.0690		.0170		CHIEN PR152,1171-66	
THRESHOLD	6.50	1.59	2.34					4 DATA POINTS LISTED	
..... REACTION 82									
LKPIAN	8.108	2.444	3.250	4.0000	MICROB	ERROR NOT GIVEN		BALTAY PR140B,1027-65	A
	8.924	2.879	3.700	9.0000	MICROB	3.0000		BALTAY PR140B,1027-65	A
THRESHOLD	7.22	1.97	2.75					2 DATA POINTS LISTED	

FOOTNOTES

A=SUM OF ALL FINAL STATES WHICH INCLUDE THE GIVEN PARTICLES

APP

	S	K.ENERGY	PLAB		CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 83 ..... LK3PIA(N/P) CC	14.884	6.055	6.930		4.0000	MICROB	2.0000		CHIEN PR152,1171-66	
THRESHOLD	8.80	2.81	3.63							
..... REACTION 84 ..... LKOAN/LK+AP/SOK+AP/S+KOAP	8.108	2.444	3.250		.0240		.0100		BALTAY PR140B,1027-65	
THRESHOLD	6.51	1.59	2.35							
..... REACTION 85 ..... LAL	5.257	.925	1.610		.0570		.0180		XUONG PR128,1849-62	
	5.885	1.262	1.990		.0550		.0400		BUTTON PR121,1788-61	
	6.249	1.453	2.200		.1263		.0126		KWAK BAPS14,24-69	
	6.656	1.670	2.434		.1270		.0090		BACIER PL25B,152-67	
	7.124	1.920	2.700		.1130		.0150		FISHER PR161,1335-65	
	7.659	2.205	3.000		.1170		.0180		MUSGRAVE NC35,735-65	
	8.108	2.444	3.250		.0870		.0130		BALTAY PR140B,1027-65	
	8.742	2.782	3.600		.0770		.0200		MUSGRAVE NC35,735-65	
	8.924	2.879	3.700		.0820		.0080		BALTAY PR140B,1027-65	
	9.470	3.170	4.000		.0390		.0120		MUSGRAVE NC35,735-65	
	12.601	4.838	5.700		.0460		.0040		ATHERTON PL3CB,494-65	
	14.893	6.060	6.935		.0400		.0060		CHIEN PR152,1171-66	
THRESHOLD	4.97	.77	1.43						12 DATA POINTS LISTED	

FIT OF SIGMA AGAINST PLAB GEV/C

7 DATA POINTS USED ABOVE 3.0 GEV/C , PROB. = .93
K = .39 +- .21 N = -1.22 +- .35

..... REACTION 86 ..... LAS0	6.656	1.670	2.434		.0330		.0050		BACIER PL25B,152-67	
THRESHOLD	5.31	.95	1.64							
..... REACTION 87 ..... LAY*01385 CC	12.601	4.838	5.700		.0320		.0070		ATHERTON,NPB29,477-71	
THRESHOLD	6.25	1.45	2.20							
..... REACTION 88 ..... (S/L)PIA(S/L) CC	15.014	6.124	7.000		.1620		.0200		CHIEN PR152,1171-66	
THRESHOLD	5.61	1.11	1.83							
..... REACTION 89 ..... (S/L)2PIA(S/L) CC	15.014	6.124	7.000		.0800		.0140		CHIEN PR152,1171-66	
THRESHOLD	6.29	1.48	2.22							
..... REACTION 90 ..... (S/L)MPIA(S/L) CC	8.924	2.879	3.700		.3780		.0300		BALTAY PR152,1171-66	
THRESHOLD	6.30	1.48	2.23							
..... REACTION 91 ..... (S/L)KMPIA(N/P) CC	8.924	2.879	3.700		9.0000	MICROB	3.0000		BALTAY PR152,1171-66	
	15.014	6.124	7.000		.3840		.0390		CHIEN PR152,1171-66	
THRESHOLD	7.94	2.35	3.15						2 DATA POINTS LISTED	
..... REACTION 92 ..... (S/L)KA(N/P) CC	8.924	2.879	3.700		.1010		.0250		BALTAY PR152,1171-66	
	15.014	6.124	7.000		.2060		.0270		CHIEN PR152,1171-66	
THRESHOLD	6.49	1.58	2.34						2 DATA POINTS LISTED	
..... REACTION 93 ..... (S/L)A(S/L) CC	8.924	2.879	3.700		.2030		.0160		BALTAY PR152,1171-66	
	15.014	6.124	7.000		.0980		.0120		CHIEN PR152,1171-66	
THRESHOLD	4.97	.77	1.43						2 DATA POINTS LISTED	
..... REACTION 94 ..... (S0/L)PI+PI-PIOAL CC	8.108	2.444	3.250	U	5.0000	MICROB			BALTAY PR140B,1027-66	U
	8.924	2.879	3.700		3.0000	MICROB	1.0000		BALTAY PR140B,1027-66	
THRESHOLD	6.99	1.85	2.62						2 DATA POINTS LISTED	
..... REACTION 95 ..... (S0/L)PI+PI-ALZO CC	15.014	6.124	7.000		.0770		.0090		CHIEN PR152,1171-66	
THRESHOLD	7.72	2.24	3.04							
..... REACTION 96 ..... (S0/L)PI+AS-ZO CC	15.014	6.124	7.000		.0520		.0110		CHIEN PR152,1171-66	
THRESHOLD	7.36	2.05	2.83							
..... REACTION 97 ..... (S0/L)2PI+2PI-ALZO CC	15.014	6.124	7.000		9.0000	MICROB	4.0000		CHIEN PR152,1171-66	
THRESHOLD	9.35	3.11	3.93							
..... REACTION 98 ..... (S0/L)PI-AS+ZO CC	15.014	6.124	7.000		.0340		.0050		CHIEN PR152,1171-66	
THRESHOLD	7.36	2.05	2.83							
..... REACTION 99 ..... (S0/L)K+PI+PI-APZO CC	15.014	6.124	7.000		8.0000	MICROB	3.0000		CHIEN PR152,1171-66	
THRESHOLD	9.59	3.23	4.06							

FOOTNOTES

U=UPPER LIMIT

APP

	S	K.ENERGY	PLAB		CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 100										
(SO/L)K+APZO CC	15.014	6.124	7.CCC		.1060		.C53C		CHIEN PR152,1171-66	
THRESHOLD	7.94	2.35	3.15							
..... REACTION 101										
(SO/L)KOPI+PI-ANZO CC	15.014	6.124	7.CCC		.C13C		.CC8C		CHIEN PR152,1171-66	
THRESHOLD	9.61	3.24	4.08							
..... REACTION 102										
(SO/L)KOPI+APZO CC	15.014	6.124	7.CCO		.0230		.0090		CHIEN PR152,1171-66	
THRESHOLD	7.17	1.95	2.73							
..... REACTION 103										
(SO/L)KOANZO CC	15.014	6.124	7.CCC		.C870		.C22C		CHIEN PR152,1171-66	
THRESHOLD	7.96	2.37	3.17							
..... REACTION 104										
(SO/L)ALZO CC	8.108	2.444	3.25C		.1C2C		.C39C		BALTAY PR140B,1027-66	
	8.924	2.879	3.700		.1980		.0150		BALTAY PR140B,1027-66	
	15.014	6.124	7.CCC		.1580		.C21C		CHIEN PR152,1171-66	
THRESHOLD	6.25	1.45	2.2C						3 DATA POINTS LISTED	
..... REACTION 105										
S+PI+PI-PI-AL CC	14.893	6.06C	6.935		.0240		.CC8C		CHIEN PR152,1171-66	
THRESHOLD	7.43	2.C8	2.87							
..... REACTION 106										
S+PI(-,+)PI-AS(+,-)	12.601	4.838	5.700		.015C		.CC3C		BOCK PL17,166-65	
THRESHOLD	7.06	1.89	2.67							
..... REACTION 107										
S+PI-PIOAL CC	8.108	2.444	3.25C		6.CCCC	MICRCB	ERRCR NOT GIVEN		BALTAY PR140B,1027-65	
	8.924	2.879	3.700		.0190		.C030		BALTAY PR140B,1027-65	
	12.601	4.838	5.700		.0480		.0060		BOCK PL17,166-65	
THRESHOLD	6.68	1.68	2.45						3 DATA POINTS LISTED	
..... REACTION 108										
S+PI-AL	12.601	4.838	5.7CC		.C6CC		.CC6C		BOCK PL17,166-65	
THRESHOLD	5.98	1.31	2.04							
..... REACTION 109										
S+PI-AL CC	7.124	1.920	2.700		.0259		.C1C1		FISHER PR161,1335-65	
	7.659	2.205	3.CCC		.C61C		.C1CC		MUSGRAVE NC35,735-65	
	8.139	2.493	3.3CC		.C43C		.C1CC		ARMENTERCS,236,CERN62	1
	8.742	2.782	3.600		.0680		.C12C		MUSGRAVE NC35,735-65	
	8.924	2.879	3.700		.0700		.CC8C		BALTAY PR140B,1027 65	
	9.470	3.17C	4.CCC		.C46C		.CC9C		MUSGRAVE NC35,735-65	
	12.601	4.838	5.7CC		.C84C		.C14C		ATHERTCN,NPB29,477-71	
	14.884	6.055	6.930		.1050		.C18C		CHIEN PR152,1171-66	
THRESHOLD	5.98	1.31	2.04						8 DATA POINTS LISTED	
..... REACTION 110										
S+PI-ASO CC	7.124	1.92C	2.7CC		2.9CCC	MICRCB	2.9CCC		FISHER PR161,1335-65	
	7.659	2.205	3.CCC		8.CCOO	MICRCB	4.CCCO		MUSGRAVE NC35,735-65	
	8.742	2.782	3.600		.0130		.005C		MUSGRAVE NC35,735-65	
	8.924	2.879	3.7CC		.0110		.CC3C		BALTAY PR140B,1027-65	
	9.470	3.17C	4.CCC		.C24C		.CC7C		MUSGRAVE NC35,735-65	
	14.884	6.055	6.930		5.CCOO	MICRCB	5.OOCO		CHIEN PR152,1171-66	
THRESHOLD	6.35	1.51	2.26						6 DATA POINTS LISTED	
..... REACTION 111										
S+PIOAS-	7.124	1.92C	2.7CC	U	3.6CCC	MICRCB			FISHER PR161,1335-65	U
THRESHOLD	6.35	1.51	2.26							
..... REACTION 112										
S+KOPI-AN	12.601	4.838	5.7CC		.0250		.0050		BOCK PL17,166-65	
THRESHOLD	7.64	2.19	2.99							
..... REACTION 113										
S+KOPIOAP	12.601	4.838	5.700		.0190		.CC4C		BOCK PL17,166-65	
THRESHOLD	7.63	2.19	2.98							
..... REACTION 114										
S+KOAP	12.601	4.838	5.7CC		.C2CC		.CC5C		BOCK PL17,166-65	
THRESHOLD	6.87	1.79	2.56							
..... REACTION 115										
S+KOAP CC	8.924	2.879	3.700		.0140		.0040		BALTAY PR140B,1027-65	
	14.884	6.055	6.930		.0150		.CC8C		CHIEN PR152,1171-66	
THRESHOLD	6.87	1.79	2.56						2 DATA POINTS LISTED	
..... REACTION 116										
S+KOAPZO CC	15.014	6.124	7.CCC		.0190		.CC8C		CHIEN PR152,1171-66	
THRESHOLD	8.42	2.61	3.42							

FOOTNOTES

1=AVERAGE VALUE OVER A BAND OF MOMENTA
U=UPPER LIMIT

APP

		S	K.ENERGY	PLAB	CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 117										
S+AS-		7.124	1.920	2.700	.0307		.0094		FISHER PR161,1335-65	
		7.659	2.205	3.000	.0360		.0060		MUSGRAVE NC 35,735-65	
		8.108	2.444	3.250	.0360		.0130		BALTAY PR140B,1027-65	
		8.742	2.782	3.600	.0300		.0080		MUSGRAVE NC 35,735-65	
		8.924	2.879	3.700	.0440		.0090		BALTAY PR140B,1027-65	
		9.470	3.170	4.000	.0240		.0060		MUSGRAVE NC 35,735-65	
		12.601	4.838	5.700	.0330		.0040		ATHERTON PL3CB,494-65	
	THRESHOLD	5.66	1.14	1.86					7 DATA POINTS LISTED	
..... REACTION 118										
S+AY*-1385 CC		12.601	4.838	5.700	.0460		.0090		ATHERTON,NPB29,477-71	
	THRESHOLD	6.63	1.65	2.42						
..... REACTION 119										
S(+,-)PI+PI-AS(-,+) CC		14.893	6.060	6.935	.0120		.0050		CHIEN PR152,1171-66	
	THRESHOLD	7.07	1.89	2.67						
..... REACTION 120										
S(+,-)PI+PI-AS(-,+)Z0 CC		15.014	6.124	7.000	.0140		.0060		CHIEN PR152,1171-66	
	THRESHOLD	8.64	2.73	3.54						
..... REACTION 121										
S(+,-)PI(-,+)AL CC		8.108	2.444	3.250	.1540		.0150		BALTAY PR140B,1027-65	
		8.905	2.869	3.690	.0890		.0160		BALTAY PRL11,346-63	
		15.014	6.124	7.000	.1650		.0480		BALTAY,693,DLB64	
	THRESHOLD	5.97	1.30	2.04					3 DATA POINTS LISTED	
..... REACTION 122										
S(+,-)PI(-,+)ASO CC		8.108	2.444	3.250	.0120		ERROR NOT GIVEN		BALTAY PR140B,1027-65	
	THRESHOLD	6.34	1.50	2.25						
..... REACTION 123										
S(+,-)PIOAS(-,+)		7.659	2.205	3.000	3.5000	MICROB	2.0000		ARMENTEROS,236,CERN62	
		8.108	2.444	3.250	7.0000	MICROB	ERROR NOT GIVEN		BALTAY PR140B,1027-65	
		8.742	2.782	3.600	9.8000	MICROB	5.0000		ARMENTEROS,236,CERN62	
		8.924	2.879	3.700	.0120		.0030		BALTAY PR140B,1027-65	
	THRESHOLD	6.35	1.50	2.26					4 DATA POINTS LISTED	
..... REACTION 124										
S(+,-)K0PI(-,+)Z0 CC		15.014	6.124	7.000	.0670		.0140		CHIEN PR152,1171-66	
	THRESHOLD	4.42	.48	1.06						
..... REACTION 125										
S(+,-)AS(-,+)		15.014	6.124	7.000	.0240		ERROR NOT GIVEN		BALTAY,693,DLB64	
	THRESHOLD	5.66	1.14	1.85						
..... REACTION 126										
S(+,-)AS(-,+) CC		14.884	6.055	6.930	.0190		.0090		CHIEN PR152,1171-66	
	THRESHOLD	5.66	1.14	1.85						
..... REACTION 127										
S-PI+PI+PI-AL CC		14.893	6.060	6.935	.0120		.0040		CHIEN PR152,1171-66	
	THRESHOLD	7.43	2.08	2.87						
..... REACTION 128										
S-PI+PIOAL		12.601	4.838	5.700	.0270		.0040		BOCK PL17,166-65	
	THRESHOLD	6.68	1.68	2.45						
..... REACTION 129										
S-PI+AL		12.601	4.838	5.700	.0220		.0040		BOCK PL17,166-65	
	THRESHOLD	5.98	1.31	2.04						
..... REACTION 130										
S-PI+AL CC		7.124	1.920	2.700	6.6000	MICROB	3.9000		FISHER PR161,1335-65	
		7.659	2.205	3.000	.0250		.0070		MUSGRAVE NC35,735-65	
		8.199	2.493	3.300	.0243		.0060		ARMENTEROS,236,CERN62	1
		8.742	2.782	3.600	.0370		.0090		MUSGRAVE NC35,735-65	
		8.924	2.879	3.700	.0240		.0040		BALTAY PR140B,1027-66	
		9.470	3.170	4.000	.0240		.0070		MUSGRAVE NC35,735-65	
		12.601	4.838	5.700	.0350		.0060		ATHERTON,NPB29,477-71	
		14.884	6.055	6.930	.0350		.0080		CHIEN PR152,1171-66	
	THRESHOLD	5.98	1.31	2.04					8 DATA POINTS LISTED	
..... REACTION 131										
S-PI+ASO CC		7.124	1.920	2.700	3.7000	MICROB	2.6000		FISHER PR161,1335-65	
		7.659	2.205	3.000	.0140		.0060		MUSGRAVE NC35,735-65	
		8.742	2.782	3.600	5.0000	MICROB	3.0000		MUSGRAVE NC35,735-65	
		8.924	2.879	3.700	4.0000	MICROB	2.0000		BALTAY PR140B,1027-65	
		9.470	3.170	4.000	.0160		.0060		MUSGRAVE NC35,735-65	
		14.893	6.060	6.935	2.0000	MICROB	2.0000		CHIEN PR152,1171-66	
	THRESHOLD	6.35	1.51	2.26					6 DATA POINTS LISTED	

FOOTNOTES

1=AVERAGE VALUE OVER A BAND OF MOMENTA

********** APP **********

		S	K.ENERGY	PLAB		CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 132											
S-AS+		7.124	1.920	2.700		1.0000	MICRCB	5.4000		FISHER PR161,1335-65	
		7.659	2.205	3.000		.0100		.0040		MUSGRAVE NC35,735-65	
		7.659	2.205	3.000		8.0000	MICRCB	3.0000		ARMENTEROS,236,CERN62	
		8.108	2.444	3.250		2.0000	MICRCB	8.0000	2.0000	BALTAY PR140B,1027-65	
		8.742	2.782	3.600		7.0000	MICRCB	3.5000		ARMENTEROS,236,CERN62	
		8.742	2.782	3.600		.0140		.0060		MUSGRAVE NC35,735-65	
		8.924	2.879	3.700		8.0000	MICRCB	4.0000		BALTAY PR140B,1027-65	
		9.470	3.170	4.000		.0100		.0050		MUSGRAVE NC35,735-65	
		12.601	4.838	5.700		1.9000	MICRCB	.7000		ATHERTON PL30B,494-69	
		15.014	6.124	7.000		3.0000	MICRCB	2.0000		CHIEN PR152,1171-66	
	THRESHOLD	5.66	1.14	1.86						10 DATA POINTS LISTED	
..... REACTION 133											
S-AY*+1385 CC		12.601	4.838	5.700	U	3.6000	MICRCB			ATHERTON,NPB29,477-71	U
	THRESHOLD	6.63	1.66	2.42							
..... REACTION 134											
SOPI+PI-AL CC		8.108	2.444	3.250	U	5.0000	MICRCB			BALTAY PR140B,1027-65	U
		14.893	6.060	6.935		9.0000	MICRCB	5.0000		CHIEN PR152,1171-66	
	THRESHOLD	6.68	1.68	2.45						2 DATA POINTS LISTED	
..... REACTION 135											
SOK+AP		12.601	4.838	5.700		.0150		.0030		BOCK PL17,166-65	
	THRESHOLD	6.87	1.79	2.56							
..... REACTION 136											
SOK+AP CC		8.924	2.879	3.700		.0130		.0040		BALTAY PR140B,1027-65	
		14.884	6.055	6.930		.0510		.0130		CHIEN PR152,1171-66	
	THRESHOLD	6.87	1.79	2.56						2 DATA POINTS LISTED	
..... REACTION 137											
SOKOPI+AP		12.601	4.838	5.700		8.0000	MICRCB	4.0000		BOCK PL17,166-65	
	THRESHOLD	7.63	2.19	2.98							
..... REACTION 138											
SOKOPI+AP CC		14.884	6.055	6.930		7.0000	MICRCB	5.0000		CHIEN PR152,1171-66	
	THRESHOLD	7.63	2.19	2.98							
..... REACTION 139											
SOAL		6.656	1.670	2.434		.0310		.0050		BACIER PL25B,152-67	
		7.659	2.205	3.000		.0510		.0080		MUSGRAVE NC35,735-65	
		8.924	2.879	3.700		.0350		.0050		BALTAY PR140B,1027-65	
	THRESHOLD	5.31	.95	1.64						3 DATA POINTS LISTED	
..... REACTION 140											
SOAL CC		6.249	1.453	2.200		.0598		.0084		KWAK BAPS14,24-69	
		6.656	1.670	2.434		.0640		.0050		BACIER PL25B,152-67	
		7.124	1.920	2.700		.0660		.0130		FISHER PR161,1335-65	
		7.659	2.205	3.000		.1020		.0170		MUSGRAVE NC35,735-65	
		8.108	2.444	3.250		.0560		.0110		BALTAY PR140B,1027-65	
		8.742	2.782	3.600		.0670		.0190		MUSGRAVE NC35,735-65	
		8.924	2.879	3.700		.0690		.0100		BALTAY PR140B,1027-65	
		9.470	3.170	4.000		.0460		.0130		MUSGRAVE NC35,735-65	
		12.601	4.838	5.700		.0350		.0040		ATHERTON PL30B,494-69	
		14.884	6.055	6.930		.0390		.0060		CHIEN PR152,1171-66	
	THRESHOLD	5.31	.95	1.64						10 DATA POINTS LISTED	
						FIT OF SIGMA AGAINST PLAB GEV/C					
						7 DATA POINTS USED ABOVE 3.0 GEV/C , PROB. = .85					
						K = .27 +- .17 N = -1.11 +- .41					
..... REACTION 141											
SOASO		6.656	1.670	2.434		.0110		.0050		BACIER PL25B,152-67	
		7.124	1.920	2.700	U	.0150				FISHER PR161,1335-65	U
		7.659	2.205	3.000	U	.0180				MUSGRAVE NC35,735-65	U
		8.742	2.782	3.600	U	.0220				MUSGRAVE NC35,735-65	U
		8.924	2.879	3.700	U	.0260				BALTAY PR140B,1027-65	U
		9.470	3.170	4.000	U	.0170				MUSGRAVE NC35,735-65	U
	THRESHOLD	5.66	1.14	1.86						6 DATA POINTS LISTED	
..... REACTION 142											
Y*+1385AS- CC		8.924	2.879	3.700		.0360		.0110		BALTAY PR140B,1027-65	
	THRESHOLD	6.63	1.66	2.42							
..... REACTION 143											
Y*+1385AY*-1385		12.601	4.838	5.700		.0140		.0030		ATHERTON,NPB29,477-71	
	THRESHOLD	7.67	2.21	3.01							
..... REACTION 144											
Y*+1385AY*-1385 CC		8.924	2.879	3.700		5.0000	MICRCB	2.0000		BALTAY PR140B,1027-65	
	THRESHOLD	7.67	2.21	3.01							
..... REACTION 145											
Y*-1385AS+ CC		8.924	2.879	3.700	U	9.0000	MICRCB			BALTAY PR140B,1027-65	U
	THRESHOLD	6.63	1.66	2.42							
..... REACTION 146											
Y*-1385AY*+1385		12.601	4.838	5.700	U	4.5000	MICRCB			ATHERTON,NPB29,477-71	U
	THRESHOLD	7.67	2.21	3.01							

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FOOTNOTES

U=UPPER LIMIT

********** APP **********

	S	K.ENERGY	PLAB		CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 147 ..... Y*-1385AY**1385 CC	8.924	2.879	3.700		8.0000	MICROB	2.0000		BALTAY PR140B,1027-65	
THRESHOLD	7.67	2.21	3.01							
..... REACTION 148 ..... Y01405AL CC	8.924	2.879	3.700		.0280		.0100		BALTAY PR140B,1027-65	
THRESHOLD	6.35	1.51	2.26							
..... REACTION 149 ..... Y01520AL CC	8.924	2.879	3.700		.0370		.0180		BALTAY PR140B,1027-65	
THRESHOLD	6.94	1.82	2.60							
..... REACTION 150 XI	8.924	2.879	3.700		5.0000	MICROB	ERROR NOT GIVEN		BALTAY PR152,1171-66	A
	15.014	6.124	7.000		.0140		.0050		CHIEN PR152,1171-66	A
THRESHOLD	3.52	0.00	0.00						2 DATA POINTS LISTED	
..... REACTION 151 ..... XI- CC	15.014	6.124	7.000		.0110		.0040		BALTAY,693,DLB64	A
THRESHOLD	3.52	0.00	0.00							
..... REACTION 152 ..... XI-PI+AX10 CC	8.108	2.444	3.250	U	5.0000	MICROB			BALTAY PR140B,1027-65	U
	8.905	2.869	3.690		1.2000	MICROB	ERROR NOT GIVEN		BALTAY,PRL11,165,63	
	8.924	2.879	3.700		3.0000	MICROB	ERROR NOT GIVEN		BALTAY PR140B,1027-65	
THRESHOLD	7.73	2.24	3.04						3 DATA POINTS LISTED	
..... REACTION 153 ..... XI-AXI+	7.124	1.920	2.700	U	1.8000	MICROB			FISHER PR161,1335-65	U
	7.659	2.205	3.000		4.0000	MICROB	2.5000		ARMENTEROS,236,CERN62	
	7.659	2.205	3.000		2.0000	MICROB	1.0000		MUSGRAVE NC35,735-65	
	8.108	2.444	3.250		4.0000	MICROB	ERROR NOT GIVEN		BALTAY PR140B,1027-66	
	8.742	2.782	3.600	U	1.0000	MICROB			MUSGRAVE NC35,735-65	U
	8.924	2.879	3.700		2.0000	MICROB	ERROR NOT GIVEN		BALTAY PR140B,1027-66	
	9.470	3.170	4.000	U	1.0000	MICROB			MUSGRAVE NC35,735-65	U
THRESHOLD	6.97	1.84	2.61						7 DATA POINTS LISTED	
..... REACTION 154 ..... XI0AXI0	7.124	1.920	2.700	U	2.8000	MICROB			FISHER PR161,1335-65	U
THRESHOLD	6.97	1.84	2.61							
..... REACTION 155 ..... XI*(-,0)1530AXI(+,0) CC	8.924	2.879	3.700		2.0000	MICROB	1.0000		BALTAY PR140B,1027-65	
THRESHOLD	8.13	2.46	3.26							
..... REACTION 156 ..... OM- C.C	15.014	6.124	7.000	U	5.0000	MICROB			BALTAY,693,DLB64	W
	15.014	6.124	7.000	U	3.0000	MICROB			CHIEN PR152,1171-66	W
THRESHOLD	11.16	4.07	4.92						2 DATA POINTS LISTED	
..... REACTION 157 ..... PI+PI-	3.667	.078	.390		.6800		.1400		CASTELLI,PC-71	
	3.705	.098	.440		.7000		.1300		CASTELLI,PC-71	
	3.756	.125	.500		.4000		.1000		CASTELLI,PC-71	
	3.831	.165	.590		.3400		.0800		CASTELLI,PC-71	
	5.257	.925	1.610		.1190		.0300		LYNCH PR131,1276-63	
	5.274	.934	1.620		.1370		.0160		CHAPMAN PRL21,1718-68	
	5.520	1.065	1.770		.1090		.0140		CHAPMAN PRL21,1718-68	
	5.620	1.118	1.830		.0760		.0120		CHAPMAN PRL21,1718-68	
	5.720	1.172	1.890		.0840		.0110		CHAPMAN PRL21,1718-68	
	5.821	1.226	1.950		.0530		.0100		CHAPMAN PRL21,1718-68	
	6.249	1.453	2.200		.0320		.0080		CHAPMAN PRL21,1718-68	
	7.124	1.930	2.700		.0280		.0090		DOMINGO PL25B,486-67	
	7.659	2.205	3.000	U	.0100				CZYZ. CERN/TC/PH64-27	U
	8.162	2.473	3.280	U	.0250				FERBEL PR143,1096-66	U
	8.851	2.840	3.660		6.0000	MICROB	3.5000		KATZ PRL19,265-67	
	9.470	3.170	4.000		7.0000	MICROB	5.0000		CZYZ. CERN/TC/PH64-27	
	12.601	4.838	5.700	U	.0500				BOCKMANN NC42A,954-66	U
	14.902	6.065	6.940	U	.0120				FERBEL PR173,1307-68	U
THRESHOLD	.08	0.00	0.00						18 DATA POINTS LISTED	

FIT OF SIGMA AGAINST PLAB GEV/C

10 DATA POINTS USED ABOVE 1.5 GEV/C , PROB. = .99
K = .76 +- .37 N = -3.61 +- .78

..... REACTION 158 ..... PI+PI-PI0	5.257	.925	1.610	1.5800		.2500		LYNCH PR131,1276-63
	7.659	2.205	3.000	.2800		.1000		CZYZEWSKI,271,SIE63
	8.162	2.473	3.280	.5000		.2000		FERBEL PR143,1096-66
	9.470	3.170	4.000	.2500		.0800		CZYZEWSKI,271,SIE63
	12.601	4.838	5.700	.2300		.1200		ALLES-B. NC5CA,776-67
	14.902	6.065	6.940	.2900				FERBEL PR173,1307-68
THRESHOLD	.18	0.00	0.00					6 DATA POINTS LISTED
..... REACTION 159 ..... PI+PI-Z0	5.257	.925	1.610	14.1000		3.0000		XUONG PR128,1849-62
	8.162	2.473	3.280	6.7000		2.2000		FERBEL PR143,1096-66
	12.601	4.838	5.700	4.5000		1.2000		BOCKMANN NC42A,954-66
	14.902	6.065	6.940	10.0000		1.0000		FERBEL PR173,1307-68
THRESHOLD	.31	0.00	0.00					4 DATA POINTS LISTED

FOOTNOTES

A=SUM OF ALL FINAL STATES WHICH INCLUDE THE GIVEN PARTICLES
U=UPPER LIMIT
W=A TRUE AND U TRUE

APP

		S	K.ENERGY	PLAB	CROSS SECTION	ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 160									
2PI+2PI-		4.253	.390	.940	3.6000	.4000		BURNS,NPB27,109-71	
		4.619	.585	1.200	2.9000	.2000		DONALD NPB6,174-68	
		5.257	.925	1.610	1.4000	.3000		XUONG PR12E,1849-62	
		6.771	1.732	2.500	1.3500	.1000		CLAYTON,NPB22,85-70	
		8.162	2.473	3.280	.8000	.1000		FERBEL PR143,1096-66	
		12.601	4.838	5.700	.1730	.0160		ACCENSI PL20,557-66	
		12.601	4.838	5.700	.1100	.0300		BOCKMANN NC42A,954-66	
		14.902	6.065	6.940	.0540	.0200		FERBEL PR173,1307-68	
	THRESHOLD	.31	0.00	0.00				8 DATA POINTS LISTED	
..... REACTION 161									
2PI+2PI-PIO		4.584	.566	1.176	13.6000	1.0000		DONALD NPB11,551-69	
		5.257	.925	1.610	10.4000	1.0000		XUONG PR12E,1849-62	
		6.771	1.732	2.500	6.0000	.1000		CLAYTON,NPB3C,605-71	
		8.162	2.473	3.280	4.5000	.6000		FERBEL PR143,1096-66	
		12.601	4.838	5.700	.9000	.1000		ALLES-B. NC5CA,776-67	
		14.902	6.065	6.940	.4200	.1000		FERBEL PR173,1307-68	
	THRESHOLD	.49	0.00	0.00				6 DATA POINTS LISTED	
..... REACTION 162									
2PI+2PI-(PIO/ZO)		12.601	4.838	5.700	9.0000	1.4000		BOCKMANN NC42A,954-66	
	THRESHOLD	.48	0.00	0.00					
..... REACTION 163									
2PI+2PI-2PIO		4.584	.566	1.176	8.9000	1.5000		DONALD NPB11,551-69	
		6.771	1.732	2.500	7.8000	.1000		CLAYTON,NPB3C,605-71	
	THRESHOLD	.71	0.00	0.00				2 DATA POINTS LISTED	
..... REACTION 164									
2PI+2PI-ZO		4.584	.566	1.176	14.3000	1.0000		DONALD NPB11,551-69	
		5.257	.925	1.610	12.0000	1.5000		XUONG PR12E,1849-62	
		8.162	2.473	3.280	12.0000	1.2000		FERBEL PR143,1096-66	
		12.601	4.838	5.700	8.3000	1.4000		BOCKMANN NC42A,954-66	
		14.902	6.065	6.940	10.5000	1.5000		FERBEL PR173,1307-68	
	THRESHOLD	.71	0.00	0.00				5 DATA POINTS LISTED	
..... REACTION 165									
2PI+2PI-3PIO		4.584	.566	1.176	5.4000	1.4000		DONALD NPB11,551-69	
		6.771	1.732	2.500	5.0000	.1000		CLAYTON,NPB3C,605-71	
	THRESHOLD	.96	0.00	0.00				2 DATA POINTS LISTED	
..... REACTION 166									
2PI+2PI-4PIO		6.771	1.732	2.500	1.4000	.1000		CLAYTON,NPB3C,605-71	
	THRESHOLD	1.25	0.00	0.00					
..... REACTION 167									
2PI+2PI-5PIO		6.771	1.732	2.500	.3000	.1500		CLAYTON,NPB3C,605-71	
	THRESHOLD	1.59	0.00	0.00					
..... REACTION 168									
3PI+3PI-		5.257	.925	1.610	1.1600	.1000		XUONG PR12E,1849-62	
		7.659	2.205	3.000	1.1000	.0700		DANYSZ NC51A,801-67	
		8.162	2.473	3.280	.9000	.1000		FERBEL PR143,1096-66	
		8.724	2.772	3.590	.9200	.0600		ATHERT. NP B18,221-70	
		12.601	4.838	5.700	.3100	.0300		FRIDMAN PR167,1268-68	
		12.601	4.838	5.700	.2600	.0600		BOCKMANN NC42A,954-66	
		13.899	5.530	6.400	.2500	.0300		ALEXANDER PRL25,63-70	
		14.902	6.065	6.940	.2500	.0300		ALEXANDE,NPB23,557-70	
		14.902	6.065	6.940	.2160	.0350		FERBEL PR173,1307-68	
	THRESHOLD	.71	0.00	0.00				9 DATA POINTS LISTED	
					FIT OF SIGMA AGAINST PLAB GEV/C				
					8 DATA POINTS USED ABOVE 3.0 GEV/C , PROB. = .95				
					K = 10.20 +- 3.16 N = -1.98 +- .21				
..... REACTION 169									
3PI+3PI-PIO		5.257	.925	1.610	1.8000	.2500		XUONG PR12E,1849-62	
		7.659	2.205	3.000	2.8000	.1000		DANYSZ NC51A,801-67	
		8.162	2.473	3.280	2.7000	.3000		FERBEL PR143,1096-66	
		8.724	2.772	3.590	2.6800	.1600		ATHERT. NP B18,221-70	
		12.601	4.838	5.700	1.4000	.3000		BOCKMANN NC42A,954-66	
		12.601	4.838	5.700	1.0900	.0700		FRIDMAN PR167,1268-68	
		13.899	5.530	6.400	1.5700	.1100		ALEXANDER PRL25,63-70	
		14.902	6.065	6.940	1.5700	.1100		ALEXANDE,NPB23,557-70	
		14.902	6.065	6.940	1.2000	.1000		FERBEL PR173,1307-68	
	THRESHOLD	.96	0.00	0.00				9 DATA POINTS LISTED	
..... REACTION 170									
3PI+3PI-(PIO/ZO)		12.601	4.838	5.700	6.3000	.4000		BOCKMANN NC42A,954-66	
	THRESHOLD	.95	0.00	0.00					
..... REACTION 171									
3PI+3PI-2PIO		5.257	.925	1.610	1.0500	.2500		XUONG PR12E,1849-62	
		7.659	2.205	3.000	2.6000	.1000		DANYSZ NC51A,801-67	
	THRESHOLD	1.25	0.00	0.00				2 DATA POINTS LISTED	

APP

		S	K.ENERGY	PLAB		CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 172 ..... 3PI+3PI-ZO		8.162	2.473	3.280		2.4000		.5CCC		FERBEL PR143,1096-66	
		12.601	4.838	5.70C		4.9CCC		.4CCC		BECKMANN NC42A,954-66	
		14.902	6.065	6.94C		.65C0		.24CC		ALEXANDE,NPB23,557-7C	
		14.902	6.065	6.940		3.9000		.5000		FERBEL PR173,1307-68	
	THRESHOLD	1.25	C.CC	0.00						4 DATA PCINTS LISTED	
..... REACTION 173 ..... 3PI+3PI-3PIO		7.659	2.2C5	3.CCC		.52CC		.C6CC		DANYSZ NC51A,801-67	
	THRESHOLD	1.59	0.00	0.00							
..... REACTION 174 ..... 4PI+4PI-		5.257	.925	1.610		.0250		.01CC		XUCNG PR128,1849-62	
		7.124	1.920	2.700		.C650		.011C		FISHER,NPB16,451-70	
		7.659	2.205	3.CCC		.11CC		.C2CC		DANYSZ NC51A,801-67	
		8.162	2.473	3.28C		.1CCC		.C3CC		FERBEL PR143,1096-66	
		8.742	2.782	3.600		.1300		.02C0		DANYSZ NC51A,801-67	
		12.601	4.838	5.700		.12C0		.C1CC		FRICMAN PR176,1595-68	
		14.902	6.C65	6.94C		.15C0		.C2CC		BAR-NIR,NPB2C,45-7C	
	THRESHOLD	1.25	C.CO	0.00						7 DATA POINTS LISTED	
..... REACTION 175 ..... 4PI+4PI-PIO		5.257	.925	1.610		6.0000	MICRCB	6.00CC		XUCNG PR128,1849-62	
		7.124	1.920	2.7CC		.087C		.C12C		FISHER NP B16,45C-70	
		7.659	2.205	3.CCC		.11CC		.C2CC		DANYSZ NC51A,801-67	
		8.162	2.473	3.28C		.25C0		.C6C0		FERBEL PR143,1096-66	
		8.742	2.782	3.600		.2000		.02C0		DANYSZ NC51A,801-67	
		12.601	4.838	5.7CC		.25C0		.C2CC		FRICMAN PR176,1595-68	
		14.902	6.065	6.94C		.65C0		.C5CC		BAR-NIR,NPB2C,45-7C	
	THRESHOLD	1.59	0.00	0.00						7 DATA POINTS LISTED	
..... REACTION 176 ..... 4PI+4PI-2PIO		7.659	2.205	3.000		.1000		.02CC		DANYSZ NC51A,801-67	
		8.742	2.782	3.60C		.13C0		.C3CC		DANYSZ NC51A,801-67	
	THRESHOLD	1.96	C.00	C.CC						2 DATA PCINTS LISTED	
..... REACTION 177 ..... 4PI+4PI-ZO		7.124	1.92C	2.7C0		.0170		.006C		FISHER NP B16,45C-70	
		8.162	2.473	3.280		.1CC0		ERROR NOT GIVEN		FERBEL PR143,1096-66	C
		14.902	6.065	6.94C		.96CC		.C7CC		BAR-NIR,NPB2C,45-7C	
	THRESHOLD	1.96	0.00	0.00						3 DATA PCINTS LISTED	
..... REACTION 178 ..... 4PI+4PI-3PIO		8.742	2.782	3.600		.0200		.03CC		DANYSZ NC51A,801-67	
	THRESHOLD	2.37	C.CC	0.CC							
..... REACTION 179 ..... 5PI+5PI-		7.124	1.92C	2.7CC	U	4.CCC0	MICRCB			FISHER NP B16,45C-70	L
		14.902	6.065	6.94C		.C13C		.CC7C	.CC4C	BAR-NIR,NPB2C,45-7C	
	THRESHOLD	1.96	0.00	0.00						2 DATA PCINTS LISTED	
..... REACTION 180 ..... 5PI+5PI-PIO		7.124	1.92C	2.700		1.700C	MICRCB	1.7CCC		FISHER NP B16,451-70	
		14.902	6.C65	6.94C		.C6CC		.C13C		BAR-NIR,NPB2C,45-7C	
	THRESHOLD	2.37	C.00	C.00						2 DATA PCINTS LISTED	
..... REACTION 181 ..... 5PI+5PI-ZO		14.902	6.065	6.940		.0680		.014C		BAR-NIR,NPB20,45-70	
	THRESHOLD	2.82	C.CC	C.CC							
..... REACTION 182 ..... ZO		5.257	.925	1.61C		.3CC0		.4CCC	.3CCC	XUCNG PR128,1849-62	
		12.601	4.838	5.7CC		.58CC		.C3CC		FRICMAN PR176,1595-68	
	THRESHOLD	.08	0.00	0.00						2 DATA POINTS LISTED	
..... REACTION 183 ..... K+K-		3.667	.078	.390		.0800		.C5CC		CASTELLI,PC-71	
		3.705	.C98	.44C		.3400		.C9CC		CASTELLI,PC-71	
		3.756	.125	.5CC		.13C0		.C5CC		CASTELLI,PC-71	
		3.831	.165	.580		.1400		.C6C0		CASTELLI,PC-71	
		5.257	.925	1.610		.0550		.C18C		LYNCH PR131,1276-63	
		5.274	.934	1.62C		.C51C		.C1CC		CHAPMAN PRL21,1718-68	
		5.52C	1.065	1.77C		.C51C		.C1CC		CHAPMAN PRL21,1718-68	
		5.620	1.118	1.830		.0390		.008C		CHAPMAN PRL21,1718-68	
		5.720	1.172	1.89C		.0340		.CC8C		CHAPMAN PRL21,1718-68	
		5.821	1.226	1.95C		.0350		.CC8C		CHAPMAN PRL21,1718-68	
		6.249	1.453	2.2CC		.C210		.CC6C		CHAPMAN PRL21,1718-68	
		7.124	1.920	2.700		3.0000	MICRCB	6.00CC	3.0000	SCHRCEC PR188,2081-69	
		7.659	2.205	3.CCC	U	.0100				CZYZEWSKI,271,SIE63	L
		8.851	2.840	3.66C	U	.C250				BALTAY PR142,932-66	L
		8.851	2.840	3.66C	U	2.2CC0	MICRCB			KATZ PRL19,265-67	L
		9.470	3.170	4.000	U	3.5000	MICRCB			CZYZEWSKI,271,SIE63	L
	THRESHOLD	.98	C.CO	C.CC						16 DATA PCINTS LISTED	

FIT OF SIGMA AGAINST PLAB GEV/C

8 DATA PCINTS USED ABCVE 1.5 GEV/C , PROB. =1.00
K = .25 +- .29 N = -3.09 +- 1.87

..... REACTION 184 ..... K+K-PI+PI-		4.619	.585	1.2CC		.26C0		.04C0		FRODESEN NPB10,307-69	
	THRESHOLD	1.61	0.00	0.00							

FOOTNOTES

O=ORDER OF MAGNITUDE
U=UPPER LIMIT

********** APP **********

	S	K.ENERGY	PLAB	CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 185									
K+K-PI+PI-PIO	4.619	.585	1.200	.2900		.0400	.0600	FRODESEN NPB10,307-69	
THRESHOLD	1.98	C.CO	C.CC						
..... REACTION 186									
K+KOMPI CC	8.905	2.869	3.690	1.7000		.2000		BALTAY,4CS,DLB64	
THRESHOLD	.98	C.CO	0.00						
..... REACTION 187									
K+KSPI+2PI- CC	11.196	4.090	4.940	.0800		.0060		ATHERTON,NPB16,416-70	
THRESHOLD	1.99	0.00	0.00						
..... REACTION 188									
K+KSPI+2PI-PIO CC	12.601	4.838	5.700	.2300		.0150		ATHERTON,NPB16,416-70	
THRESHOLD	2.39	C.CO	C.CC						
..... REACTION 189									
K+KSPI+2PI-ZO CC	12.601	4.838	5.700	.2500		.0200		ATHERTON,NPB16,416-70	
THRESHOLD	2.86	0.00	0.00						
..... REACTION 190									
K+KSPI-	4.619	.585	1.200	.1280		.0100		BARLOW NC5CA,701-67	
THRESHOLD	1.28	C.CO	0.00						
..... REACTION 191									
K+KSPI- CC	11.196	4.090	4.940	5.0000	MICROB	1.0000		ATHERTON,NPB16,416-70	
THRESHOLD	1.28	C.CO	C.CC						
..... REACTION 192									
K+KSPI-PIO CC	11.196	4.090	4.940	.0670		.0060		ATHERTON,NPB16,416-70	
THRESHOLD	1.62	0.00	0.00						
..... REACTION 193									
K+KSPI-ZO CC	12.601	4.838	5.700	.2500		.0200		ATHERTON,NPB16,416-70	
THRESHOLD	1.99	C.CO	C.CC						
..... REACTION 194									
K(+,-)KOPI(-,+)	4.619	.585	1.200	.2520		.0220		BARLOW NC5CA,701-67	
	7.659	2.205	3.000	.0650		.0200		FRENCH NC52A,438-67	
THRESHOLD	1.27	0.00	0.00					2 DATA POINTS LISTED	
..... REACTION 195									
K(+,-)KOPI(-,+)PI+PI-	7.659	2.205	3.000	.3550		.0300		FRENCH NC52A,438-67	
THRESHOLD	1.98	C.CO	C.CC						
..... REACTION 196									
K(+,-)KOPI(-,+)PI+PI-PIO	7.659	2.205	3.000	.4750		.0400		FRENCH NC52A,438-67	
THRESHOLD	2.39	0.00	0.00						
..... REACTION 197									
K(+,-)KOPI(-,+)PIO	4.619	.585	1.200	0.0000	MICROB	ERROR NOT GIVEN		BARLOW NC5CA,701-67	$
	7.659	2.205	3.000	.5500		.0600		FRENCH NC52A,438-67	
THRESHOLD	1.60	C.CO	C.CC					2 DATA POINTS LISTED	
..... REACTION 198									
K(+,-)KSPI(-,+)	4.619	.585	1.200	.1190		.0220		BARLOW NC5CA,701-67	
	8.851	2.840	3.660	.0110		.0060		BALTAY PR142,932-66	
THRESHOLD	1.27	C.CO	C.CC					2 DATA POINTS LISTED	
..... REACTION 199									
K(+,-)KSPI(-,+)PI+PI-	8.851	2.840	3.660	.0970		.0410	.0140	BALTAY PR142,932-66	
THRESHOLD	1.99	0.00	0.00						
..... REACTION 200									
K(+,-)KSPI(-,+)PI+PI-PIO	4.590	.569	1.180	4.6000	MICROB	6.0000		D'ANDLAU NPB5,693-68	
	8.851	2.840	3.660	.2010		.0470	.0750	BALTAY PR142,932-66	
THRESHOLD	2.40	0.00	C.CO					2 DATA POINTS LISTED	
..... REACTION 201									
K(+,-)KSPI(-,+)PIO	4.590	.569	1.180	.5940		.0240		D'ANDLAU NPB5,693-68	
	8.851	2.840	3.660	.0740		.0480	.0360	BALTAY PR142,932-66	
THRESHOLD	1.61	0.00	0.00					2 DATA POINTS LISTED	
..... REACTION 202									
K(+,-)KSPI(-,+)ZO	4.590	.569	1.180	.0750		.0090		D'ANDLAU NPB5,693-68	
THRESHOLD	1.99	0.00	0.00						
..... REACTION 203									
K(+,-)KS3PI(+,-)	4.590	.569	1.180	.1050		.0100		D'ANDLAU NPB5,693-68	
THRESHOLD	1.99	0.00	0.00						
..... REACTION 204									
K-KSPI+	4.619	.585	1.200	.1240		.0100		BARLOW NC50A,701-67	
THRESHOLD	1.28	C.CO	C.CO						

FOOTNOTES

$=DATA POINT NOT USED IN FITTING OR PLOTTING

APP

	S	K.ENERGY	PLAB		CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOTNOTES
..... REACTION 205 ..... KOMPI CC	7.124	1.920	2.700		.7500		.1500		SCHROD. PR188,2081-69	
THRESHOLD	2.01	0.00	0.00							
..... REACTION 206 ..... KOKO	5.257	.925	1.610	U	.0500				XLONG PR128,1849-62	U
	7.124	1.920	2.700	U	.0100				SCHROED PR188,2081-69	U
	8.851	2.840	3.660	U	2.0000	MICROB			BALTAY PR142,932-66	U
	14.893	6.060	6.935	U	.0200				YEH PR158,1275-67	U
									4 DATA POINTS LISTED	
THRESHOLD	.98	0.00	0.00							
..... REACTION 207 ..... KOKOPI+PI-	7.659	2.205	3.000		.1580		.0300		FRENCH NC52A,438-67	8
	7.659	2.205	3.000		.2800		.0450		FRENCH NC52A,438-67	7
									2 DATA POINTS LISTED	
THRESHOLD	1.61	0.00	0.00							
..... REACTION 208 ..... KOKOPI+PI-PI0	7.659	2.205	3.000		.5550		.0700		FRENCH NC52A,438-67	
THRESHOLD	1.98	0.00	0.00							
..... REACTION 209 ..... KOKOPI+PI+PI-PI-	7.659	2.205	3.000		.1520		.0340		FRENCH NC52A,438-67	7
	7.659	2.205	3.000		.1050		.0140		FRENCH NC52A,438-67	8
									2 DATA POINTS LISTED	
THRESHOLD	2.40	0.00	0.00							
..... REACTION 210 ..... KOKOPI+PI+PI-PI-PI0	7.659	2.205	3.000		.1000		.0300		FRENCH NC52A,438-67	
THRESHOLD	2.85	0.00	0.00							
..... REACTION 211 ..... KOKOPI+PI+PI-PI-Z0	7.659	2.205	3.000		.0300		.0200		FRENCH NC52A,438-67	
THRESHOLD	3.34	0.00	0.00							
..... REACTION 212 ..... KOKOPI0	7.659	2.205	3.000		.0200		.0150		FRENCH NC52A,438-67	
THRESHOLD	1.27	0.00	0.00							
..... REACTION 213 ..... KOKOMPI	14.893	6.060	6.935		.6000		.1000		YEH PR158,1275-67	
THRESHOLD	.98	0.00	0.00							
..... REACTION 214 ..... KOKSPI+PI-	7.124	1.920	2.700		.2000		.0450	.0300	SCHROED PR188,2081-69	
	8.851	2.840	3.660		.0610		.0630	.0430	BALTAY PR142,932-66	
									2 DATA POINTS LISTED	
THRESHOLD	1.62	0.00	0.00							
..... REACTION 215 ..... KOKS2PI+2PI-	4.590	.569	1.180		7.0000	MICROB	3.0000		D'ANDLAU NPB5,693-68	
	7.124	1.920	2.700		.0700		.0240	.0160	SCHROED PR188,2081-69	
	8.851	2.840	3.660		.0750		.1100	.0640	BALTAY PR142,932-66	
									3 DATA POINTS LISTED	
THRESHOLD	2.41	0.00	0.00							
..... REACTION 216 ..... KOKMPI CC	8.851	2.840	3.660		2.2000		.3000		BALTAY PR142,932-66	
THRESHOLD	.99	0.00	0.00							
..... REACTION 217 ..... KSPI+PI-Z0	4.590	.569	1.180		.1980		.0150		D'ANDLAU NPB5,693-68	
	12.601	4.838	5.700		.1400		ERROR NOT GIVEN		ATHERTON,NPB16,416-70	
									2 DATA POINTS LISTED	
THRESHOLD	1.98	0.00	0.00							
..... REACTION 218 ..... KS2PI+2PI-Z0	12.601	4.838	5.700		.1200		.0200		ATHERTON,NPB16,416-70	
THRESHOLD	2.84	0.00	0.00							
..... REACTION 219 ..... KSK(+,-)PI(-,+)	7.124	1.920	2.700		.0320		.0130		SCHROED PR188,2081-69	
THRESHOLD	1.27	0.00	0.00							
..... REACTION 220 ..... KSK(+,-)PI(-,+)PI+PI-	7.124	1.920	2.700		.1510		.0260		SCHROED PR188,2081-69	
THRESHOLD	1.99	0.00	0.00							
..... REACTION 221 ..... KSK(+,-)PI(-,+)PI+PI-PI0	7.124	1.920	2.700		.1820		.0320	.0270	SCHRO. PR188,2081-69	
THRESHOLD	2.40	0.00	0.00							
..... REACTION 222 ..... KSK(+,-)PI(-,+)PI0	7.124	1.920	2.700		.1750		.0400	.0200	SCHROED PR188,2081-69	
THRESHOLD	1.61	0.00	0.00							
..... REACTION 223 ..... KSKS	4.619	.585	1.200		5.9000	MICROB	2.3000		BARLOW NC5CA,701-67	
THRESHOLD	.99	0.00	0.00							

FOOTNOTES

U=UPPER LIMIT
8=FROM A SINGLE K0i OBSERVED, OTHER K0 FROM KINEMATIC FITTING
7=CROSS SECTION DERIVED FROM K0iK0i EVENTS OBSERVED

APP

		S	K.ENERGY	PLAB		CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 224											
KSKSPI+PI-		4.619	.585	1.200		.2080		.C2C0		BARLOW NC5CA,701-67	
		7.124	1.920	2.700		.0360		.0160		SCHRCED PR188,2081-69	
		8.851	2.840	3.660		.0100		.CC3C		BALTAY PR142,932-66	
		11.196	4.090	4.940		.0180		.CC3C		ATHERTON,NPB16,416-70	
	THRESHOLD	1.62	C.00	0.00						4 DATA POINTS LISTED	
..... REACTION 225											
KSKSPI+PI-PI0		4.590	.569	1.180		.1860		.0170		D'ANDLAU NPB5,693-68	
		7.124	1.920	2.700		.0690		.0210		SCHRCED PR188,2081-69	
		8.851	2.840	3.660		.0340		.0050	.0110	BALTAY PR142,932-66	
		11.196	4.090	4.940		.0570		.CC5C		ATHERTON,NPB16,416-70	
	THRESHOLD	2.00	C.00	C.00						4 DATA POINTS LISTED	
..... REACTION 226											
KSKSPI+PI-PI0PI0		4.590	.569	1.180		5.0000	MICRCB	2.0000		D'ANDLAU NPB5,693-68	
	THRESHOLD	2.41	C.00	0.00							
..... REACTION 227											
KSKSPI+PI-Z0		12.601	4.838	5.700		.1250		.0100		ATHERTON,NPB16,416-70	
	THRESHOLD	2.41	C.00	C.00							
..... REACTION 228											
KSKSPI0		4.619	.585	1.200		.0590		.CC7C		BARLOW NC5CA,701-67	
		11.196	4.090	4.940		2.0000	MICRCB	2.0000		ATHERTON,NPB16,416-70	
	THRESHOLD	1.29	C.00	C.00						2 DATA POINTS LISTED	
..... REACTION 229											
KSKS2PI+2PI-		8.851	2.840	3.660		.0110		.0030		BALTAY PR142,932-66	
		11.196	4.090	4.940		.0250		.CC4C		ATHERTON,NPB16,416-70	
	THRESHOLD	2.41	C.00	C.00						2 DATA POINTS LISTED	
..... REACTION 230											
KSKS2PI+2PI-PI0		12.601	4.838	5.700		.0760		.0070		ATHERTON,NPB16,416-70	
	THRESHOLD	2.87	C.00	C.00							
..... REACTION 231											
KSKS2PI+2PI-Z0		12.601	4.838	5.700		.0400		.CC5C		ATHERTON,NPB16,416-70	
	THRESHOLD	3.36	C.00	C.00							
..... REACTION 232											
KSKSZ0		12.601	4.838	5.700		.0320		.CC4C		ATHERTON,NPB16,416-70	
	THRESHOLD	1.62	C.00	0.00							
..... REACTION 233											
KSKL		4.619	.585	1.200		.0270		.C05C		BARLOW NC5CA,701-67	
	THRESHOLD	.99	C.00	C.00							
..... REACTION 234											
KSKLPI+PI-		7.124	1.920	2.700		.2000		.C45C	.C3C0	SCHRC. PR188,2081-69	
		11.196	4.090	4.940		.0250		.CC5C		ATHERTON,NPB16,416-70	
	THRESHOLD	1.63	C.00	0.00						2 DATA POINTS LISTED	
..... REACTION 235											
KSKL2PI+2PI-		7.124	1.920	2.700		.0700		.C24C	.0160	SCHRC. PR188,2081-69	
		11.196	4.090	4.940		.0680		.CC6C		ATHERTON,NPB16,416-70	
	THRESHOLD	2.42	C.00	0.00						2 DATA POINTS LISTED	
..... REACTION 236											
KK		12.601	4.838	5.700	U	.0100				ATHERTON,NPB16,416-70	U
	THRESHOLD	1.00	C.00	C.00							
..... REACTION 237											
KKPI		5.257	.925	1.610		.7400		.160C		XUONG PR12E,1849-62	
		7.659	2.205	3.000		.1100		ERROR NOT GIVEN		FRENCH NC52A,438-67	
		12.601	4.838	5.700		.0200		.0100		ATHERTON,NPB16,416-70	
	THRESHOLD	1.27	C.00	0.00						3 DATA POINTS LISTED	
..... REACTION 238											
KK2PI		5.257	.925	1.610		1.9500		.260C		XUONG PR12E,1849-62	
		7.659	2.205	3.000		1.0000		.1000		FRENCH NC52A,438-67	
		12.601	4.838	5.700		.2700		.0300		ATHERTON,NPB16,416-70	
	THRESHOLD	1.60	C.00	0.00						3 DATA POINTS LISTED	
..... REACTION 239											
KK3PI		5.257	.925	1.610		2.2000		.260C		XUONG PR12E,1849-62	
		7.659	2.205	3.000		1.8000		.2000		FRENCH NC52A,438-67	
		12.601	4.838	5.700		.4300		.0500		ATHERTON,NPB16,416-70	
	THRESHOLD	1.97	C.00	0.00						3 DATA POINTS LISTED	
..... REACTION 240											
KK4PI		5.257	.925	1.610		.3700		.C11C		XUONG PR12E,1849-62	
		7.659	2.205	3.000		1.4000		.2000		FRENCH NC52A,438-67	
		12.601	4.838	5.700		1.3000		.1000		ATHERTON,NPB16,416-70	
	THRESHOLD	2.38	C.00	0.00						3 DATA POINTS LISTED	

FOOTNOTES

U=UPPER LIMIT

APP

		S	K.ENERGY	PLAB		CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 241											
KK5PI		5.257	.925	1.610		0.0000	MICROB	20.0000		XUONG PR12E,1849-62	$
		7.659	2.205	3.000		.6000		.2000		FRENCH NC52A,438-67	
		12.601	4.838	5.700		1.0000		.2000		ATHERTON,NPB16,416-70	
	THRESHOLD	2.83	C.00	C.00						3 DATA POINTS LISTED	
..... REACTION 242											
KK6PI		12.601	4.838	5.700		.3800		.0600		ATHERTON,NPB16,416-70	
	THRESHOLD	3.32	C.00	C.00							
..... REACTION 243											
KK(6/7)PI		7.659	2.205	3.000		.2000		.2000		FRENCH NC52A,438-67	
	THRESHOLD	3.14	C.00	C.00							
..... REACTION 244											
KK7PI		12.601	4.838	5.700		.1800		.1000		ATHERTON,NPB16,416-70	
	THRESHOLD	3.84	.17	.59							
..... REACTION 245											
KKMPI(M.GE.0)		12.601	4.838	5.700		3.5000		.3000		ATHERTON,NPB16,416-70	
	THRESHOLD	.97	C.00	C.00							
..... REACTION 246											
KKMPI(M.GE.8)		12.601	4.838	5.700	U	.0400				ATHERTON,NPB16,416-70	U
	THRESHOLD	4.42	.48	1.06							
..... REACTION 247											
KKMPI		7.124	1.920	2.700		4.1000		.6000		SCHRCEC 79 8E8 65	
		7.659	2.205	3.000		5.1000		.4000		FRENCH NC52A,438-67	
		8.851	2.840	3.660		2.9000		.4000		BALTAY PR142,932-66	
		14.893	6.060	6.935		2.5000		.5000		YEH PR15E,1275-67	
	THRESHOLD	1.00	C.00	C.00						4 DATA POINTS LISTED	
..... REACTION 248											
KKKKMPI		8.851	2.840	3.660		.0310		.0400	.0230	BALTAY PR142,932-66	
		14.893	6.060	6.935		.1000		.2000	.0200	YEH PR15E,1275-67	
	THRESHOLD	4.00	.26	.74						2 DATA POINTS LISTED	
..... REACTION 249											
ETPI+PI-		12.601	4.838	5.700		4.0000	MICROB	2.0000		ALLES-B. NC5CA,776-67	
	THRESHOLD	.69	C.00	0.00							
..... REACTION 250											
RH+PI+PI-PI-		6.771	1.732	2.500		.4900		.0900		CLAYTON,NPB3C,605-71	
	THRESHOLD	1.39	C.00	C.00							
..... REACTION 251											
RH(+,-)PI(-,+)PI+PI-		14.902	6.065	6.940		.2100		.0900		FERBEL PR173,1307-68	
	THRESHOLD	1.40	0.00	0.00							
..... REACTION 252											
RH(+,-)PI(-,+)2PI+2PI-		14.902	6.065	6.940		.1000		.0300		FERBEL PR173,1307-68	
	THRESHOLD	2.14	C.00	C.00							
..... REACTION 253											
RH(-,+)3PI(+,-)2PI(-,+)		7.659	2.205	3.000		.2000		.0500		DANYSZ NC51A,801-67	
	THRESHOLD	2.14	C.00	0.00							
..... REACTION 254											
RH-PI+PI+PI-		12.601	4.838	5.700		.4200		.1000		ALLES-B. NC5CA,776-67	
	THRESHOLD	1.39	0.00	0.00							
..... REACTION 255											
RHOPI+PI-		6.771	1.732	2.500		.6700		ERROR NOT GIVEN		CLAYTON,NPB22,85-70	
		12.601	4.838	5.700		.0520		.0130		ALLES-B. NC5CA,776-67	
	THRESHOLD	1.08	C.00	C.00						2 DATA POINTS LISTED	
..... REACTION 256											
RHOPI+PI-PIO		6.771	1.732	2.500		.5100		.0900		CLAYTON,NPB3C,605-71	
		12.601	4.838	5.700		.2400		.0700		ALLES-B. NC5CA,776-67	
		14.902	6.065	6.940		.0700		.0300		FERBEL PR173,1307-68	
	THRESHOLD	1.39	0.00	0.00						3 DATA POINTS LISTED	
..... REACTION 257											
RHOPIO		14.902	6.065	6.940	U	.0250				FERBEL PR173,1307-68	U
	THRESHOLD	.81	C.00	C.00							
..... REACTION 258											
RHO2PI+2PI-		7.659	2.205	3.000		1.1000		.1000		DANYSZ NC51A,801-67	
		14.902	6.065	6.940		.0900		.0300		FERBEL PR173,1307-68	
	THRESHOLD	1.74	0.00	0.00						2 DATA POINTS LISTED	
..... REACTION 259											
RHO2PI+2PI-PIO		7.659	2.205	3.000		.7000		.2400		DANYSZ NC51A,801-67	
		12.601	4.838	5.700		.2400		.0600		FRIDMAN PR167,1268-68	
		14.902	6.065	6.940		.4000		.0700		FERBEL PR173,1307-68	
	THRESHOLD	2.13	0.00	0.00						3 DATA POINTS LISTED	

FOOTNOTES

$=DATA POINT NOT USED IN FITTING OR PLOTTING
U=UPPER LIMIT

APP

	S	K.ENERGY	PLAB		CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 260										
RHOKOKO	4.619	.585	1.200		.1040		.0300		BARLOW NC50A,701-67	
THRESHOLD	3.06	0.00	0.00							
..... REACTION 261										
RHKKPI=K(+,-)KSPI(-,+)ZC	4.590	.569	1.180		9.6000	MICROB	5.0000		D'ANDLAU NPB5,693-68	
THRESHOLD	3.58	.03	.24							
..... REACTION 262										
RHOKKPI=K(+,-)KS3PI(+,-)	4.590	.569	1.180		.0284		.0050		D'ANDLAU NPB5,693-68	
THRESHOLD	3.58	.03	.24							
..... REACTION 263										
RHOKSKS	4.619	.585	1.200		.0520		.0150		BARLOW NC50A,701-67	
THRESHOLD	3.08	C.CO	0.CO							
..... REACTION 264										
RHKSKSPI	4.590	.569	1.180		.0260		.0090		D'ANDLAU NPB5,693-68	
THRESHOLD	3.58	.03	.24							
..... REACTION 265										
RHORHO	12.601	4.838	5.700	U	.0100				ACCENSI PL20,557-66	U
THRESHOLD	2.31	C.CO	C.CC							
..... REACTION 266										
2RHOPI+PI-PIO	12.601	4.838	5.700		.0200		.0100		FRIDMAN PR167,1268-68	
THRESHOLD	1.39	C.CO	C.CC							
..... REACTION 267										
3RHOPIO	12.601	4.838	5.700	U	6.0000	MICROB			FRIDMAN THEID.67	U
THRESHOLD	5.90	1.27	2.00							
..... REACTION 268										
OMPI+PI-	6.771	1.732	2.500		.1800		.0300		CLAYTON,NPB3C,605-71	
	14.902	6.065	6.940	U	.0400				FERBEL PR173,1307-68	U
THRESHOLD	1.13	C.CO	C.CC						2 DATA POINTS LISTED	
..... REACTION 269										
OMPI+PI-=2PI+2PI-PIO	12.601	4.838	5.700		.0840		.0260		ALLES-B. NC50A,776-67	
THRESHOLD	1.13	0.00	0.00							
..... REACTION 270										
OM2PI+2PI-	7.659	2.205	3.000		.8900		.1500		DANYSZ NC51A,801-67	
	12.601	4.838	5.700		.0430		.0150		FRIDMAN PR167,1268-68	
	14.902	6.065	6.940		.1000		.0300		FERBEL PR173,1307-68	
THRESHOLD	1.80	0.00	0.00						3 DATA POINTS LISTED	
..... REACTION 271										
OM2PI+2PI-=3PI+3PI-PIO	5.257	.925	1.610		.6000		.1500		XUONG PR128,1849-62	
THRESHOLD	1.80	C.CO	C.CC							
..... REACTION 272										
OMK(+,-)KSPI(-,+)=KK4PI	4.590	.569	1.180		8.7000	MICROB	3.0000		D'ANDLAU NPB5,693-68	
THRESHOLD	3.67	.08	.39							
..... REACTION 273										
OMKSKS	4.590	.569	1.180		.0820		.0050		D'ANDLAU NPB5,693-68	
THRESHOLD	3.16	0.00	0.00							
..... REACTION 274										
OMRHOPI+PI-	12.601	4.838	5.700		7.0000	MICROB	ERROR NOT GIVEN		FRIDMAN PR167,1268-68	C
THRESHOLD	3.32	C.CO	0.CO							
..... REACTION 275										
K*K CC	7.124	1.920	2.700	U	.0100				SCHROED PR188,2081-69	U
THRESHOLD	1.92	C.CO	C.CC							
..... REACTION 276										
K*890K CC	14.893	6.060	6.935	U	.0300				YEH PR158,1275-67	U
THRESHOLD	1.92	0.00	0.00							
..... REACTION 277										
K*890KPIPI=K(+,-)KS3PI +,-	4.590	.569	1.180		.0705		.0040		D'ANDLAU NPB5,693-68	
THRESHOLD	2.77	0.00	0.00							
..... REACTION 278										
K*890KPIPI=KSKSPI+PI-PIC	4.590	.569	1.180		.0740		.0100		D'ANDLAU NPB5,693-68	
THRESHOLD	2.77	0.00	0.00							
..... REACTION 279										
K*890K3PI=K(+,-)KS4PI	4.590	.569	1.180		.0160		.0060		D'ANDLAU NPB5,693-68	
THRESHOLD	3.25	0.00	0.00							
..... REACTION 280										
K*890KZO=K(+,-)KSPI(-,+)ZO	4.590	.569	1.180		.0515		.0050		D'ANDLAU NPB5,693-68	
THRESHOLD	2.77	0.00	0.00							

FOOTNOTES

U=UPPER LIMIT
O=ORDER OF MAGNITUDE

APP

	S	K.ENERGY	PLAB		CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 281 ..... K*(+,-)890K(-,+)	4.619	.585	1.200		.2100		.0200		BARLOW NC5CA,701-67	
THRESHOLD	1.92	C.CC	0.CC							
..... REACTION 282 ..... K*(+,-)K(-,+)=KSK(-,+)PI	4.619	.585	1.200		.C700		.0070		BARLOW NC5CA,701-67	
THRESHOLD	1.92	C.CC	C.CC							
..... REACTION 283 ..... K*(+,-)890K(-,+)PIO	4.619	.585	1.200		.2470		.0400		BARLOW NC5CA,701-67	
THRESHOLD	5.19	.89	1.57							
..... REACTION 284 ..... K*(+,-)KOPI(-,+)	4.619	.585	1.200		.5790		.0800		BARLOW NC5CA,701-67	
THRESHOLD	2.33	C.CC	C.CC							
..... REACTION 285 ..... K*0890(K,PI)O	4.619	.585	1.200		.2260		.0360		BARLOW NC5CA,701-67	
THRESHOLD	1.06	C.CC	C.CC							
..... REACTION 286 ..... K*0890KO	4.619	.585	1.200		.1050		.0180		BARLOW NC5CA,701-67	
THRESHOLD	1.92	0.00	0.00							
..... REACTION 287 ..... K*0890KS	4.619	.585	1.200		.0350		.0060		BARLOW NC5CA,701-67	
THRESHOLD	1.92	C.CC	C.CC							
..... REACTION 288 ..... PHIPI+PI-=KSKLPI+PI-	4.619	.585	1.200		.0120		.0030		BARLOW NC5CA,701-67	
THRESHOLD	1.69	C.CC	0.00							
..... REACTION 289 ..... A1(+,-)PI(-,+)	12.601	4.838	5.700	U	.0100				ACCENSI PL20,557-66	U
THRESHOLD	1.46	0.00	0.00							
..... REACTION 290 ..... A1(+,-)PI(-,+)PI+PI-PIO	12.601	4.838	5.700		.2300		.0600		FRIEDMAN PR167,1268-68	
THRESHOLD	2.63	C.CC	C.CC							
..... REACTION 291 ..... B(+,-)PI(-,+)=CMPI+PI-	4.584	.566	1.176	U	.1260				CONALD NPB11,551-69	U
THRESHOLD	1.89	0.00	0.00							
..... REACTION 292 ..... S*PI+PI-	6.771	1.732	2.500		.1200		ERROR NOT GIVEN		CLAYTON,NPB22,85-70	
THRESHOLD	1.80	C.CC	0.CC							
..... REACTION 293 ..... FPI+PI-	6.771	1.732	2.500		.5500		ERROR NOT GIVEN		CLAYTON,NPB22,85-70	
THRESHOLD	1.96	C.CC	C.CC							
..... REACTION 294 ..... FPI+PI-=PI+PI+PI-PI-	12.601	4.838	5.700		.0430		.0120		ACCENSI PL20,557-66	
THRESHOLD	2.34	0.00	0.00							
..... REACTION 295 ..... FPI+PI-PIO	6.771 12.601	1.732 4.838	2.500 5.700		.1600 .0800		.0500 .0400		CLAYTON,NPB30,605-71 ALLES-B. NC5CA,776-67	
THRESHOLD	2.79	C.CC	C.CC						2 DATA POINTS LISTED	
..... REACTION 296 ..... FRHO	12.601	4.838	5.700	U	.0220				ACCENSI PL20,557-66	U
THRESHOLD	4.04	.28	.77							
..... REACTION 297 ..... FF	12.601	4.838	5.700	U	.0310				ACCENSI PL20,557-66	U
THRESHOLD	6.25	1.45	2.20							
..... REACTION 298 ..... K*1270KPI+PI-	4.619	.585	1.200		.0820		.0300		BARLOW NC5CA,701-67	
THRESHOLD	4.17	.35	.88							
..... REACTION 299 ..... K*01270KS=KSKSPI+PI-	4.619	.585	1.200		.0410		.0150		BARLOW NC5CA,701-67	
THRESHOLD	3.13	0.00	0.CC							
..... REACTION 300 ..... DOPIO	4.590	.569	1.180		4.0000	MICROB	2.0000		D'ANDLAU NPB5,693-68	
THRESHOLD	2.02	0.00	0.00							
..... REACTION 301 ..... DOPIO=K(+,-)KSPI(-,+)PIO	4.590	.569	1.180		.0112		.0030		D'ANDLAU NPB5,693-68	
THRESHOLD	2.02	0.00	0.00							

FOOTNOTES

U=UPPER LIMIT

APP

	S	K.ENERGY	PLAB		CROSS SECTION		ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 302										
D0PI0=RH0PI+PI-PI0	4.584	.566	1.176	U	.0440				DONALD NPB11,551-69	U
THRESHOLD	2.02	0.00	0.00							
..... REACTION 303										
D0PIPI=K(+,-)KS3PI(+,-)	4.590	.569	1.180		3.2000	MICROB	2.0000		D'ANDLAU NPB5,693-68	
THRESHOLD	2.45	0.00	0.00							
..... REACTION 304										
D0ET=K(+,-)KSPIPI+PI-PI0	4.590	.569	1.180		.5000	MICROB	.5000		D'ANDLAU NPB5,693-68	
THRESHOLD	3.36	0.00	0.00							
..... REACTION 305										
D0ET=K(+,-)KSPI(-,+)Z0	4.590	.569	1.180		2.6000	MICROB	1.1000		D'ANDLAU NPB5,693-68	
THRESHOLD	3.36	0.00	0.00							
..... REACTION 306										
D0RH0=K(+,-)KS3PI(+,-)	4.590	.569	1.180		3.2000	MICROB	1.5000		D'ANDLAU NPB5,693-68	
THRESHOLD	4.20	.36	.90							
..... REACTION 307										
D0OM=K(+,-)KSPIPI+PI-PI0	4.590	.569	1.180		.0210		.0030		D'ANDLAU NPB5,693-68	
THRESHOLD	4.28	.41	.96							
..... REACTION 308										
D0OM=K(+,-)KSPI(-,+)Z0	4.590	.569	1.180		1.7000	MICROB	.8000		D'ANDLAU NPB5,693-68	
THRESHOLD	4.28	.41	.96							
..... REACTION 309										
D0Z0=K(+,-)KSPI(-,+)Z0	4.590	.569	1.180		9.2000	MICROB	3.5000		D'ANDLAU NPB5,693-68	
THRESHOLD	2.42	0.00	0.00							
..... REACTION 310										
A2(+,-)PI(-,+)	12.601	4.838	5.700	U	.0100				ACCENSI PL20,557-66	U
THRESHOLD	2.10	0.00	0.00							
..... REACTION 311										
A2(+,-)PIPI0=RH0PI+PI-PI0	4.584	.566	1.176	U	.2200				DONALD NPB11,551-69	U
THRESHOLD	2.51	0.00	0.00							
..... REACTION 312										
A2(+,-)PI(-,+)PI+PI-PI0	12.601	4.838	5.700		.1700		.0500		FRIDMAN PR167,1268-68	
THRESHOLD	3.47	0.00	0.00							
..... REACTION 313										
A20PI+PI-	4.619	.585	1.200		.0390		.0110		FREDESEN NPB10,307-69	
THRESHOLD	2.50	0.00	0.00							
..... REACTION 314										
A2CPI+PI-=RH(+,-)PIPI+PI-	4.584	.566	1.176	U	.2500				DONALD NPB11,551-69	U
THRESHOLD	2.52	0.00	0.00							
..... REACTION 315										
K*1320KPI(+,-)	4.619	.585	1.200		.0380		.0140		BARLOW NC5CA,701-67	
THRESHOLD	3.81	.16	.56							
..... REACTION 316										
K*1320KPI(+,-)=KSK(+,-)PI	4.619	.585	1.200		.0190		.0070		BARLOW NC5CA,701-67	
THRESHOLD	3.81	.16	.56							
..... REACTION 317										
K*1320KPI(+,-)PI0	4.619	.585	1.200		.0600		.0240		BARLOW NC5CA,701-67	
THRESHOLD	4.36	.45	1.02							
..... REACTION 318										
K*1420KPI+PI-	4.619	.585	1.200		.0500		.0200		BARLOW NC5CA,701-67	
THRESHOLD	4.81	.69	1.33							
..... REACTION 319										
K*0142OKS=KSKSPI+PI-	4.619	.585	1.200		.0250		.0100		BARLOW NC5CA,701-67	
THRESHOLD	3.68	.08	.41							
..... REACTION 320										
E0PI0=RH0PI+PI-PI0	4.584	.566	1.176	U	.1100				DONALD NPB11,551-69	U
THRESHOLD	2.42	0.00	0.00							
..... REACTION 321										
G0PI+PI-PI0	6.771	1.732	2.500		.0260		.0100		CLAYTON,NPB30,605-71	
THRESHOLD	4.38	.46	1.04							

FOOTNOTES

U=UPPER LIMIT

APN

		S	K.ENERGY	PLAB	CROSS SECTION	ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 322 ..... TOTAL		4.530	.534	1.135	119.0000	8.0000		ELIOFF PR128,869-62	
		4.842	.700	1.343	96.0000	7.0000		ELIOFF PR128,869-62	
		5.061	.817	1.483	112.0000	8.0000		ELIOFF PR128,869-62	
		5.309	.949	1.637	102.0000	6.0000		ELIOFF PR128,869-62	
		5.534	1.069	1.774	109.0000	4.0000		ELIOFF PR128,869-62	
		13.175	5.135	6.000	59.5000	4.0000		GALBR.PR136B,913-65	
		14.383	5.778	6.650	58.8000	2.4000		CENTSOV,PL34B,167-71	
		16.899	7.117	8.000	57.3000	3.9000		GALBR.PR136B,913-65	
		24.381	11.098	12.000	53.8000	3.7000		GALBR.PR136B,913-65	
		28.129	13.093	14.000	53.4000	3.7000		GALBR.PR136B,913-65	
		31.880	15.089	16.000	52.7000	3.7000		GALBR.PR136B,913-65	
		35.633	17.086	18.000	44.4000	9.0000		GALBR.PR136B,913-65	
		39.386	19.084	20.000	46.0000	1.7000		ALLABY PL3CB,5C0-69	
		48.774	24.079	25.000	45.3000	1.1000		ALLABY PL3CB,5C0-69	
		58.164	29.076	30.000	44.5000	1.1000		ALLABY PL3CB,5C0-69	
		67.555	34.074	35.000	45.9000	1.2000		ALLABY PL3CB,500-69	
		76.948	39.073	40.000	43.2000	1.1000		ALLABY PL3CB,500-69	
		86.341	44.072	45.000	44.6000	1.1000		ALLABY PL3CB,5C0-69	
		95.735	49.071	50.000	44.1000	1.2000		ALLABY PL3CB,500-69	
	THRESHOLD	3.53	0.00	0.00				19 DATA POINTS LISTED	
					FIT OF SIGMA AGAINST PLAB GEV/C				
					11 DATA POINTS USED ABOVE 10.0 GEV/C , PROB. = .99				
					K = 64.40 +- 12.66 N = -.10 +- .06				
..... REACTION 323 ..... APN		4.530	.534	1.135	40.0000	10.0000		ELIOFF PR128,869-62	
		4.842	.700	1.343	25.0000	8.0000		ELIOFF PR128,869-62	
		5.061	.817	1.483	44.0000	9.0000		ELIOFF PR128,869-62	
		5.309	.949	1.637	39.0000	7.0000		ELIOFF PR128,869-62	
		5.534	1.069	1.774	42.0000	6.0000		ELIOFF PR128,869-62	
		8.572	2.685	3.500	20.6000	2.0000		REYNOLDS,PR2,1767-70	
	THRESHOLD	3.53	0.00	0.00				6 DATA POINTS LISTED	
..... REACTION 324 ..... INELASTIC		4.530	.534	1.135	79.0000	6.0000		ELIOFF PR128,869-62	
		4.842	.700	1.343	71.0000	5.0000		ELIOFF PR128,869-62	
		5.061	.817	1.483	68.0000	5.0000		ELIOFF PR128,869-62	
		5.309	.949	1.637	63.0000	4.0000		ELIOFF PR128,869-62	
		5.534	1.069	1.774	67.0000	5.0000		ELIOFF PR128,869-62	
	THRESHOLD	4.05	.28	.77				5 DATA POINTS LISTED	
..... REACTION 325 ..... HYPERONS		7.312	2.015	2.800	.3170	.0780		BACCN,697,DUB64	
	THRESHOLD	4.97	.77	1.43					
..... REACTION 326 ..... PPI-PI-AN		7.312	2.015	2.800	.5000	.2500		GOZA BAPS12,470-67	
	THRESHOLD	4.66	.60	1.22					
..... REACTION 327 ..... PPI-PIOAP		7.312	2.015	2.800	.5900	.1600		GOZA BAPS12,470-67	
	THRESHOLD	4.65	.60	1.22					
..... REACTION 328 ..... PPI-AP		5.846	1.235	1.960	5.1000	.2000		BACCN PR139B,1420-65	3
		7.312	2.015	2.800	4.6500	.4000		COCHRAN BAPS12,470-67	
		12.247	4.641	5.500	1.5000	.0080		BRAUN,PR2,488-70	2
		12.247	4.641	5.500	1.6800	.1100		BRAUN,PR2,488-70	3
	THRESHOLD	4.06	.29	.79				4 DATA POINTS LISTED	
..... REACTION 329 ..... PAN*--1236		5.846	1.235	1.960	3.9200	.1400		BACCN PR135B,1420-65	2
		7.312	2.015	2.800	4.2500	.4900		BACCN PR162,1320-67	3
	THRESHOLD	4.73	.64	1.27				2 DATA POINTS LISTED	
..... REACTION 330 ..... NPI+PI-AP		7.312	2.015	2.800	1.6200	.2200		GOZA BAPS12,470-67	
	THRESHOLD	4.66	.60	1.22					
..... REACTION 331 ..... N*+1236AN*--1236=PPI-PIOAP		7.312	2.015	2.800	.3700	ERROR NOT GIVEN		GOZA BAPS12,470-67	
	THRESHOLD	6.11	1.38	2.11					
..... REACTION 332 ..... LPI-AL		7.312	2.015	2.800	.0480	.0200		BACCN,697,DUB64	
	THRESHOLD	5.62	1.11	1.82					
..... REACTION 333 ..... LPI(0,-)AS(-,0)/S-PIOAL		7.312	2.015	2.800	.1220	.0700		BACCN,697,DUB64	
	THRESHOLD	5.95	1.29	2.02					
..... REACTION 334 ..... LAS- CC		7.312	2.015	2.800	.1390	.0230		BACCN,697,DUB64	
	THRESHOLD	5.35	.97	1.66					
..... REACTION 335 ..... S-PI-AS+ CC		7.312	2.015	2.800	8.2000 MICRCB	4.1000		BACCN,697,DUB64	
	THRESHOLD	6.35	1.50	2.25					

FOOTNOTES

3=CROSS SECTION CORRECTED FOR SCREENING IN THE DEUTERON
2=CROSS SECTION NOT CORRECTED FOR SCREENING IN THE DEUTERON

APN

	S	K.ENERGY	PLAB	CROSS SECTION	ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 336								
U0PI-=2PI+3PI-	7.312	2.015	2.800	.0600	.C2C0		MELTZER BAPS13,682-68	C
THRESHOLD	6.35	1.50	2.25					

FOOTNOTES

C=ORDER OF MAGNITUDE

APDE

	S	K.ENERGY	PLAB	CROSS SECTION	ERROR +	ERROR -	REFERENCE	FOOT-NOTES
..... REACTION 337								
TOTAL	7.925	.010	.050	2067.0000	90.0000		BURROWS,AJP23,819-70	
	8.138	.058	.335	390.0000	15.0000		BURROWS,AJP23,819-70	
	8.233	.083	.404	334.0000	12.0000		BURROWS,AJP23,819-70	
	8.304	.102	.450	316.0000	7.0000		BURROWS,AJP23,819-70	
	8.396	.127	.504	295.0000	7.0000		BURROWS,AJP23,819-70	
	8.499	.154	.560	271.0000	6.0000		BURROWS,AJP23,819-70	
	8.588	.178	.605	269.0000	7.0000		BURROWS,AJP23,819-70	
	8.682	.203	.650	258.0000	8.0000		BURROWS,AJP23,819-70	
	8.803	.235	.705	230.0000	10.0000		BURROWS,AJP23,819-70	
	8.935	.270	.762	253.0000	10.0000		BURROWS,AJP23,819-70	
	9.058	.303	.813	218.0000	11.0000		BURROWS,AJP23,819-70	
	9.190	.339	.866	208.0000	10.0000		BURROWS,AJP23,819-70	
	9.330	.376	.920	210.0000	9.0000		BURROWS,AJP23,819-70	
	9.545	.433	1.000	208.1800	.2100		ABRAMS BNL14C46-69	
	9.683	.470	1.050	203.3700	.2000		ABRAMS BNL14C46-69	
	9.824	.508	1.100	199.8400	.1900		ABRAMS BNL14C46-69	
	9.925	.534	1.135	210.0000	5.0000		ELIOFF PR128,869-62	
	9.968	.546	1.150	197.1400	.1500		ABRAMS BNL14C46-69	
	10.115	.585	1.200	195.2100	.1300		ABRAMS BNL14C46-69	
	10.264	.625	1.250	193.7700	.1300		ABRAMS BNL14C46-69	
	10.415	.665	1.300	191.7100	.1200		ABRAMS BNL14C46-69	
	10.547	.700	1.343	189.0000	5.0000		ELIOFF PR128,869-62	
	10.553	.702	1.345	190.1700	.1200		ABRAMS BNL14C46-69	
	10.723	.747	1.400	186.1900	.1200		ABRAMS BNL14C46-69	
	10.880	.789	1.450	183.5100	.1000		ABRAMS BNL14C46-69	
	10.984	.817	1.483	196.0000	6.0000		ELIOFF PR128,869-62	
	11.006	.823	1.490	181.4700	.0900		ABRAMS BNL14C46-69	
	11.198	.874	1.550	178.8000	.0800		ABRAMS BNL14C46-69	
	11.359	.917	1.600	176.9700	.0800		ABRAMS BNL14C46-69	
	11.479	.949	1.637	178.0000	5.0000		ELIOFF PR128,869-62	
	11.521	.960	1.650	175.1600	.0800		ABRAMS BNL14C46-69	
	11.685	1.003	1.700	173.7500	.0800		ABRAMS BNL14C46-69	
	11.850	1.047	1.750	172.3300	.0800		ABRAMS BNL14C46-69	
	11.929	1.069	1.774	184.0000	3.0000		ELIOFF PR128,869-62	
	12.036	1.097	1.806	169.8800	.0700		ABRAMS BNL14C46-69	
	12.183	1.136	1.850	168.4500	.0900		ABRAMS BNL14C46-69	
	12.266	1.158	1.875	167.5500	.0700		ABRAMS BNL14C46-69	
	12.350	1.181	1.900	166.5900	.0700		ABRAMS BNL14C46-69	
	12.435	1.203	1.925	165.6900	.0700		ABRAMS BNL14C46-69	
	12.688	1.271	2.000	162.6800	.0600		ABRAMS BNL14C46-69	
	12.859	1.316	2.050	160.4600	.0700		ABRAMS BNL14C46-69	
	13.012	1.357	2.095	159.5900	.0700		ABRAMS BNL14C46-69	
	13.201	1.408	2.150	157.7600	.0700		ABRAMS BNL14C46-69	
	13.373	1.453	2.200	156.4500	.0700		ABRAMS BNL14C46-69	
	13.546	1.500	2.250	154.5300	.0700		ABRAMS BNL14C46-69	
	13.720	1.546	2.300	153.1300	.0700		ABRAMS BNL14C46-69	
	13.894	1.592	2.350	152.2400	.0700		ABRAMS BNL14C46-69	
	14.068	1.639	2.400	150.5600	.0700		ABRAMS BNL14C46-69	
	14.243	1.685	2.450	149.4600	.0700		ABRAMS BNL14C46-69	
	14.419	1.732	2.500	148.2100	.0500		ABRAMS BNL14C46-69	
	14.594	1.779	2.550	147.0900	.0700		ABRAMS BNL14C46-69	
	14.771	1.826	2.600	145.9300	.0700		ABRAMS BNL14C46-69	
	14.947	1.873	2.650	145.0100	.0600		ABRAMS BNL14C46-69	
	15.124	1.920	2.700	143.9900	.0600		ABRAMS BNL14C46-69	
	15.302	1.967	2.750	143.1200	.0700		ABRAMS BNL14C46-69	
	15.479	2.015	2.800	141.9000	.0600		ABRAMS BNL14C46-69	
	15.657	2.062	2.850	140.8700	.0600		ABRAMS BNL14C46-69	
	15.836	2.110	2.900	140.0300	.0600		ABRAMS BNL14C46-69	
	16.014	2.157	2.950	139.1900	.0600		ABRAMS BNL14C46-69	
	16.193	2.205	3.000	138.2500	.0600		ABRAMS BNL14C46-69	
	16.373	2.253	3.050	137.3000	.0600		ABRAMS BNL14C46-69	
	16.552	2.301	3.100	136.3700	.0600		ABRAMS BNL14C46-69	
	16.732	2.349	3.150	135.7000	.0600		ABRAMS BNL14C46-69	
	16.912	2.396	3.200	134.8400	.0600		ABRAMS BNL14C46-69	
	17.092	2.444	3.250	134.0500	.0600		ABRAMS BNL14C46-69	
	17.272	2.493	3.300	133.2300	.0600		ABRAMS BNL14C46-69	
	27.185	5.135	6.000	106.9000	1.3000		GALBR.PR138B,913-65	
	34.621	7.117	8.000	102.7000	1.3000		GALBR.PR138B,913-65	
	49.561	11.098	12.000	96.1000	1.3000		GALBR.PR138B,913-65	
	57.046	13.093	14.000	95.0000	1.4000		GALBR.PR138B,913-65	
	64.535	15.089	16.000	93.2000	1.6000		GALBR.PR138B,913-65	
	72.027	17.086	18.000	87.2000	6.1000		GALBR.PR138B,913-65	
	79.522	19.084	20.000	89.5000	1.3000		ALLABY PL3CB,500-69	
	98.266	24.079	25.000	86.5000	.9000		ALLABY PL3CB,500-69	
	117.015	29.076	30.000	87.0000	.9000		ALLABY PL3CB,500-69	
	135.767	34.074	35.000	86.4000	1.0000		ALLABY PL3CB,500-69	
	154.521	39.073	40.000	83.5000	.9000		ALLABY PL3CB,500-69	
	173.276	44.072	45.000	84.8000	.9000		ALLABY PL3CB,500-69	
	192.033	49.071	50.000	83.1000	.9000		ALLABY PL3CB,500-69	
							79 DATA POINTS LISTED	
THRESHOLD	7.92	0.00	0.00					

FIT OF SIGMA AGAINST PLAB GEV/C

13 DATA POINTS USED ABOVE 4.0 GEV/C , PROB. = .94
K =129.50 +- 4.32 N = -.12 +- .01

..... REACTION 338								
DEAP ELASTIC	9.925	.534	1.135	80.0000	6.0000		ELIOFF PR128,869-62	
	10.547	.700	1.343	67.0000	5.0000		ELIOFF PR128,869-62	
	10.984	.817	1.483	78.0000	5.0000		ELIOFF PR128,869-62	
	11.479	.949	1.637	71.0000	5.0000		ELIOFF PR128,869-62	
	11.929	1.069	1.774	68.0000	4.0000		ELIOFF PR128,869-62	
							5 DATA POINTS LISTED	
THRESHOLD	7.93	.00	.07					
..... REACTION 339								
INELASTIC	9.925	.534	1.135	126.0000	5.0000		ELIOFF PR128,869-62	
	10.547	.700	1.343	117.0000	4.0000		ELIOFF PR128,869-62	
	10.984	.817	1.483	112.0000	4.0000		ELIOFF PR128,869-62	
	11.479	.949	1.637	102.0000	4.0000		ELIOFF PR128,869-62	
	11.929	1.069	1.774	109.0000	5.0000		ELIOFF PR128,869-62	
							5 DATA POINTS LISTED	
THRESHOLD	8.70	.21	.66					

********** APDE **********

		S	K.ENERGY	PLAB	CROSS SECTION	ERROR +	ERROR -	REFERENCE	FOOTNOTES
..... REACTION 340									
CHARGE EXCHANGE		9.925	.534	1.135	3.3000	1.3000		ELIOFF PR128,869-62	
		10.547	.700	1.343	5.4000	1.4000		ELIOFF PR128,869-62	
		10.984	.817	1.483	6.5000	1.5000		ELIOFF PR128,869-62	
		11.479	.949	1.637	4.4000	1.1000		ELIOFF PR128,869-62	
		11.929	1.069	1.774	5.6000	1.0000		ELIOFF PR128,869-62	
	THRESHOLD	7.92	.00	.05				5 DATA POINTS LISTED	
..... REACTION 341									
DEPI+PI-AP		25.519	4.690	5.550	.2200	.0200		BRAUN,PR2,1212-70	
	THRESHOLD	9.57	.44	1.01					
..... REACTION 342									
PPPI-PI-AN		15.479	2.015	2.800	.3000	.0400		BACON,PR2,463-70	P
	THRESHOLD	9.59	.44	1.01					
..... REACTION 343									
PPPI-PIOAP		15.479	2.015	2.800	.9000	.1000		BACON,PR2,463-70	P
	THRESHOLD	9.57	.44	1.01					
..... REACTION 344									
PNPI+PI-AP		15.479	2.015	2.800	1.7000	.2000		BACON,PR2,463-70	N
		15.479	2.015	2.800	1.5000	.2000		BACON,PR2,463-70	P
	THRESHOLD	4.07	0.00	0.00				2 DATA POINTS LISTED	

FOOTNOTES

P=PROTON IS A SPECTATOR
N=NEUTRON IS A SPECTATOR

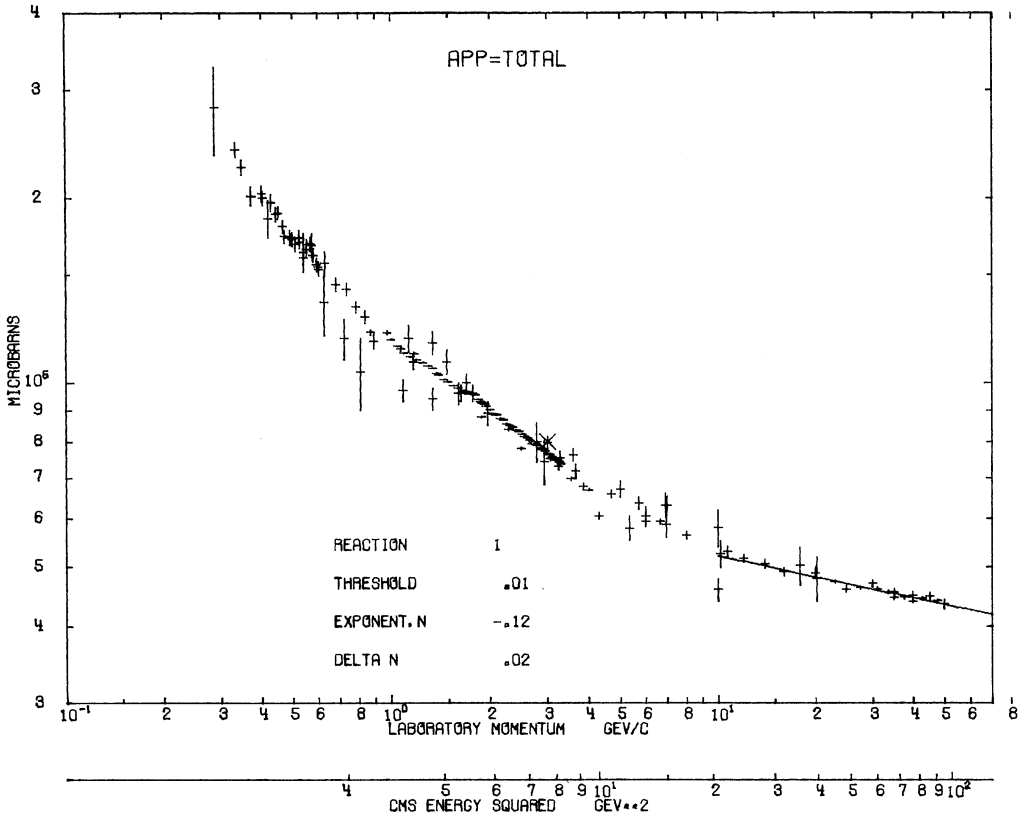
PLOTS OF CROSS SECTION VERSUS INCIDENT LABORATORY MOMENTUM

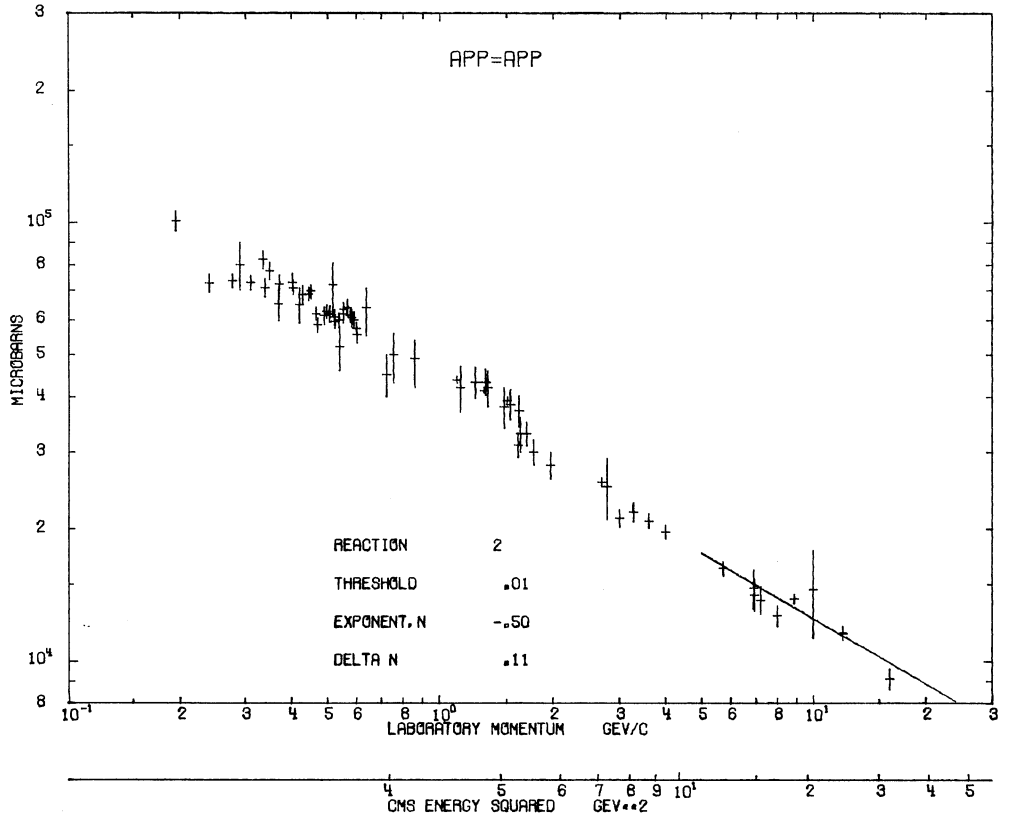
DESCRIPTION

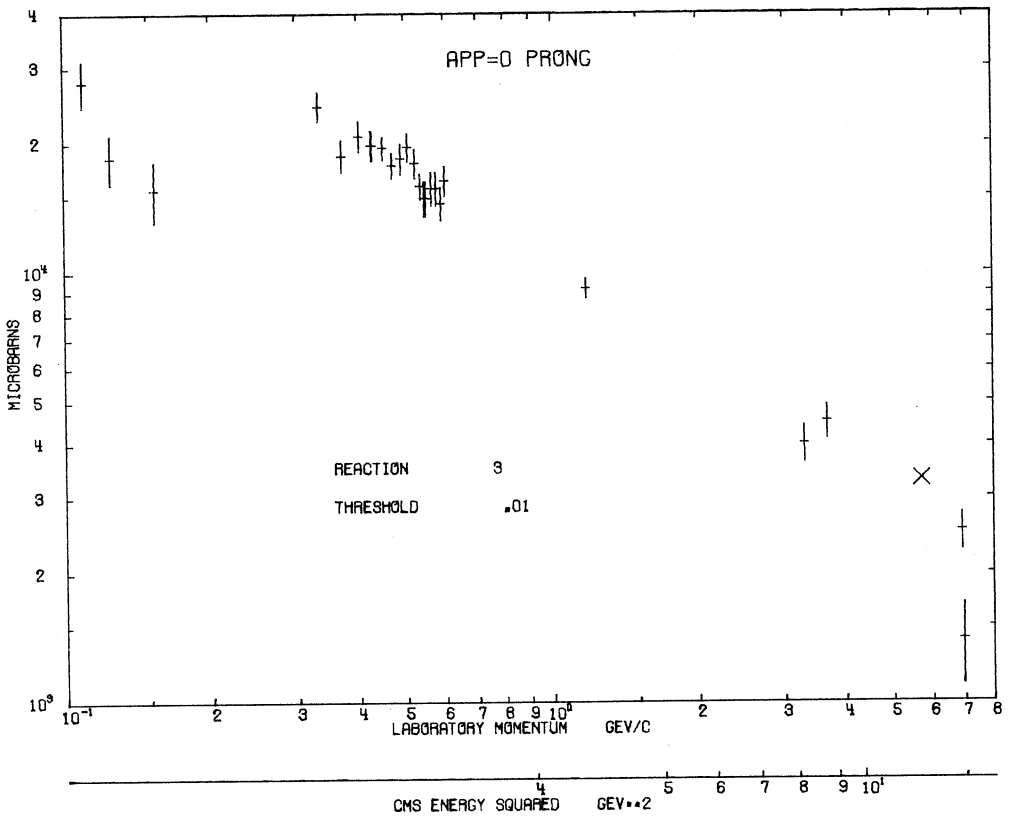
For those reactions having a sufficient number of data points, a graph is given of the cross section, σ, versus the momentum, p_{LAB} on log-log scales.

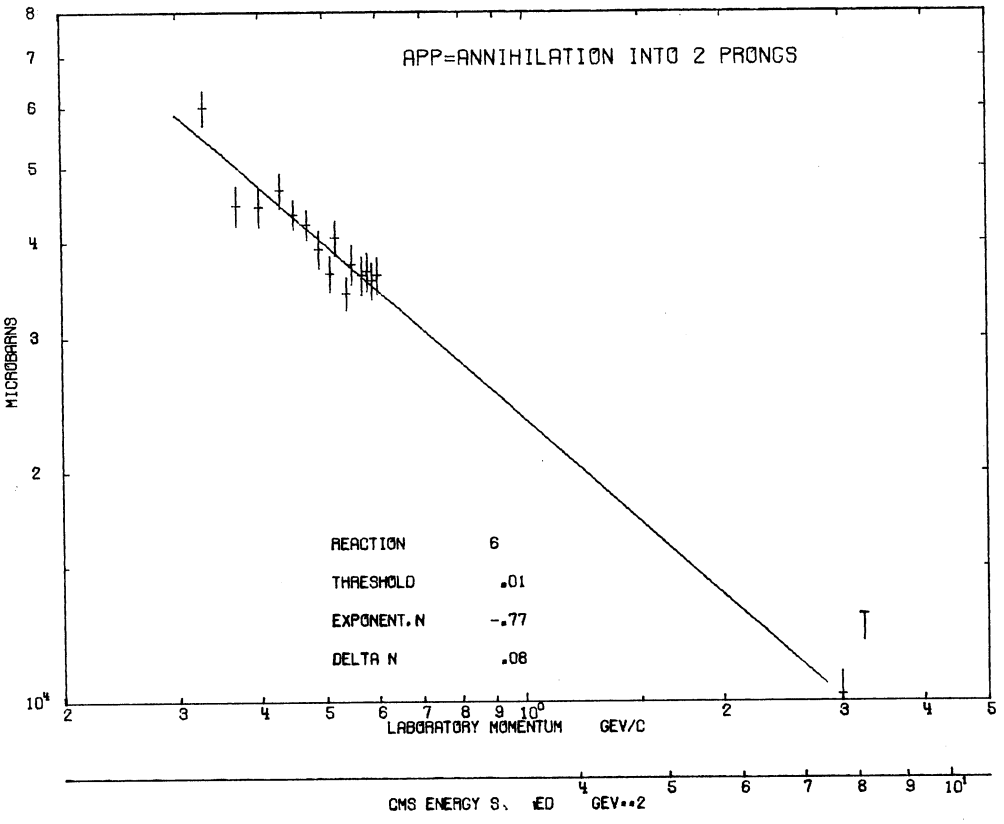
Errors are shown whenever they have been given. If no errors have been published, the data point is given as a cross, X. If only an upper limit is quoted, this is shown as a short horizontal bar together with a line extending to the bottom of the graph.

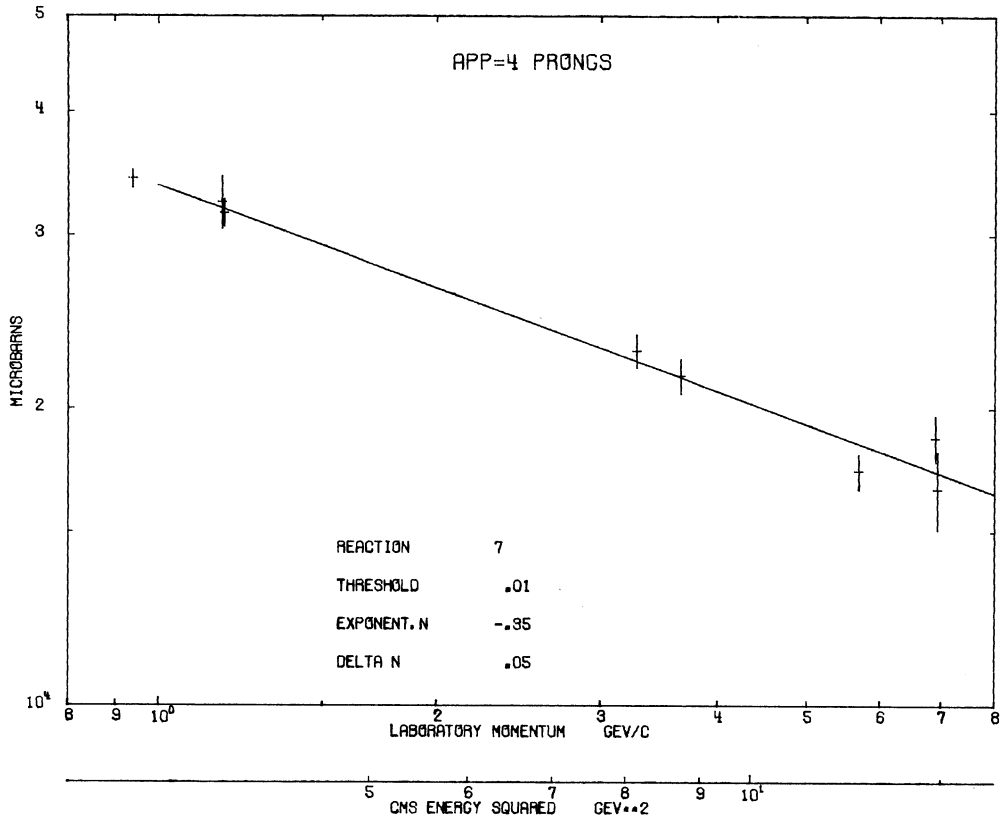
Lines drawn on the graph are fits to the high energy data of the formula (1), i.e. σ = constant. $(p_{LAB})^{+n}$, and the value of the exponent, n and its error are printed on the graph.

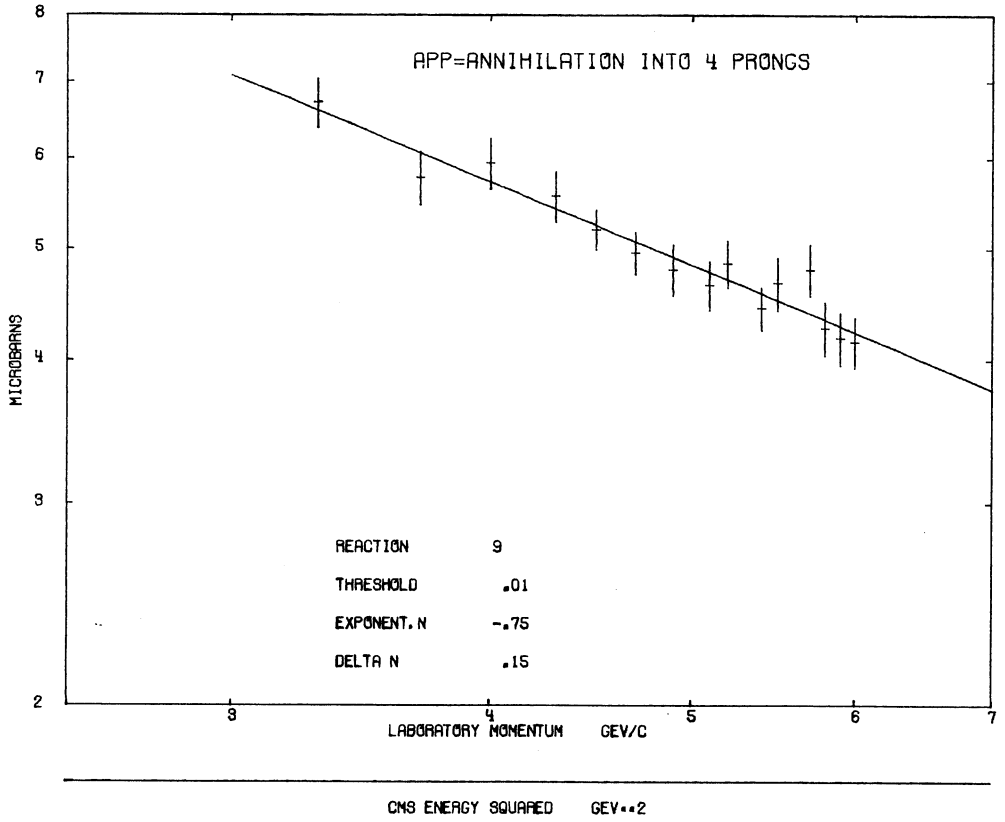

APP=TOTAL
MICROBARNS
REACTION 1
THRESHOLD .01
EXPONENT.N -.12
DELTA N .02
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

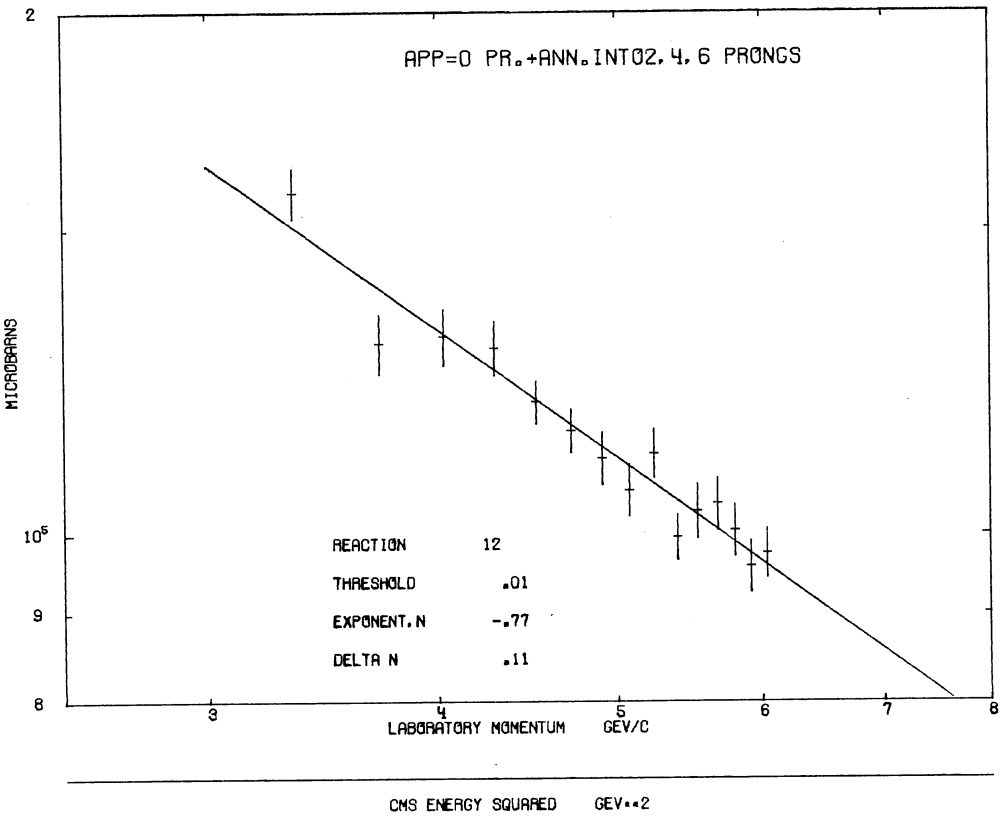

APP=APP
MICROBARNS
REACTION 2
THRESHOLD .01
EXPONENT.N -.50
DELTA N .11
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

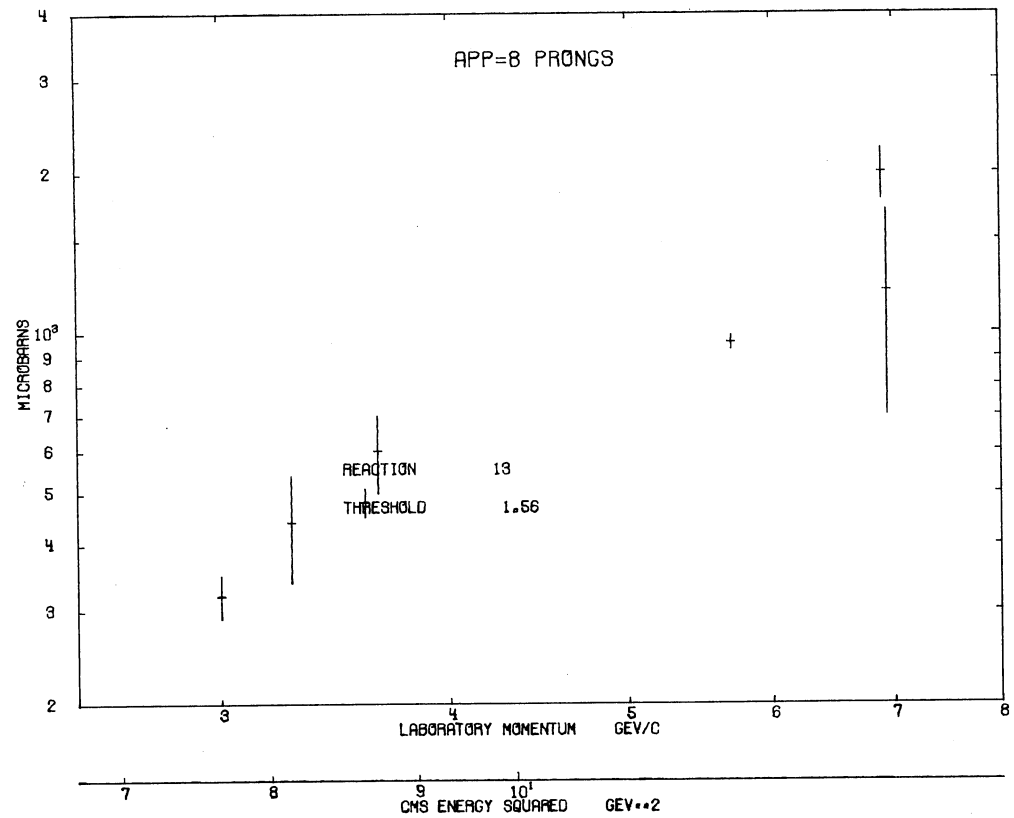

APP=0 PRONG
MICROBARNS
REACTION 3
THRESHOLD .01
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

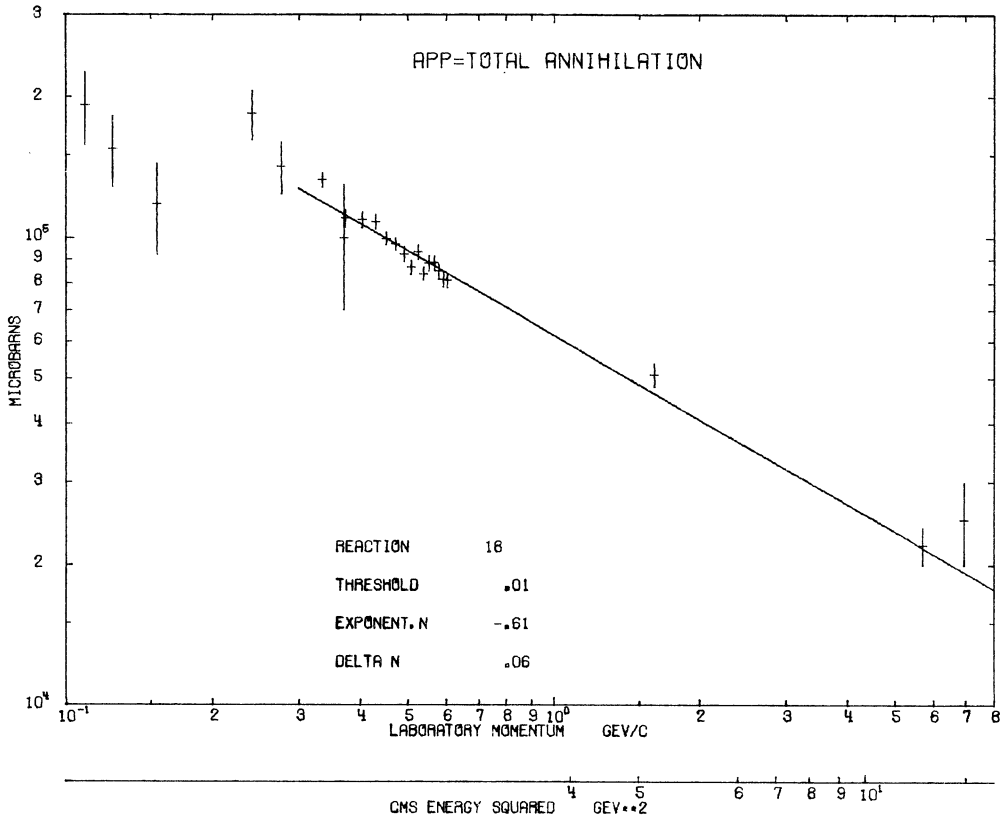

APP=ANNIHILATION INTO 2 PRONGS
MICROBARNS
REACTION 6
THRESHOLD .01
EXPONENT.N -.77
DELTA N .08
LABORATORY MOMENTUM GEV/C
CMS ENERGY S. ED GEV**2

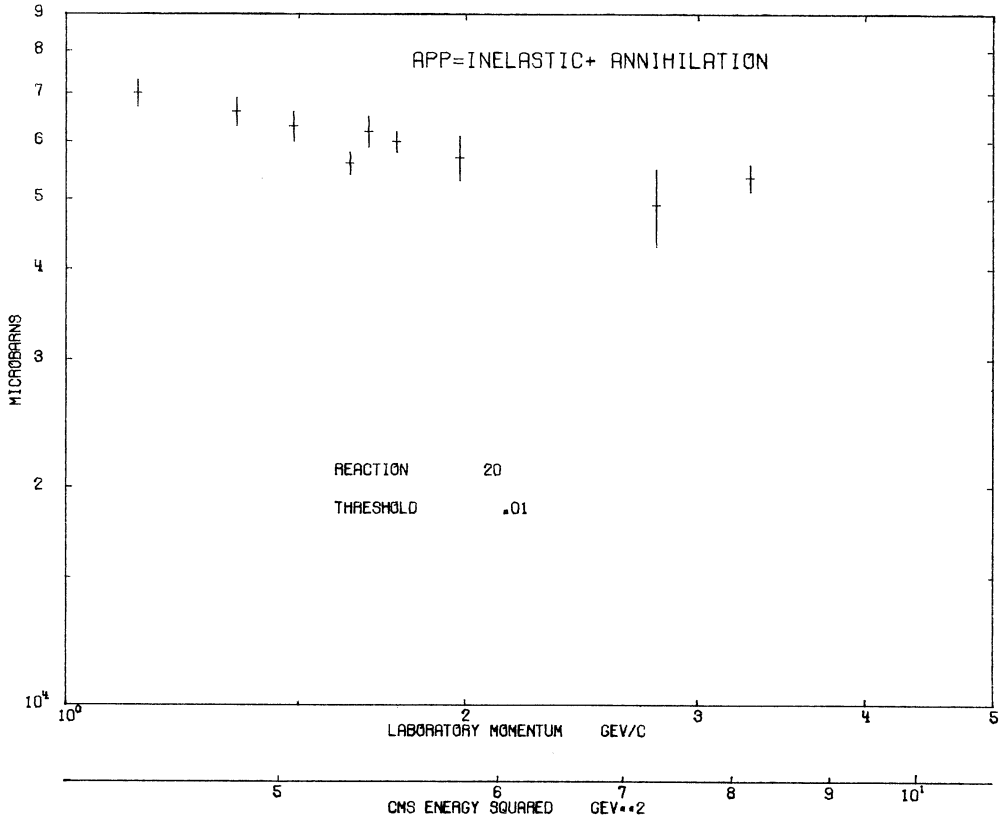

APP=4 PRONGS
MICROBARNS
REACTION 7
THRESHOLD .01
EXPONENT.N -.35
DELTA N .05
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

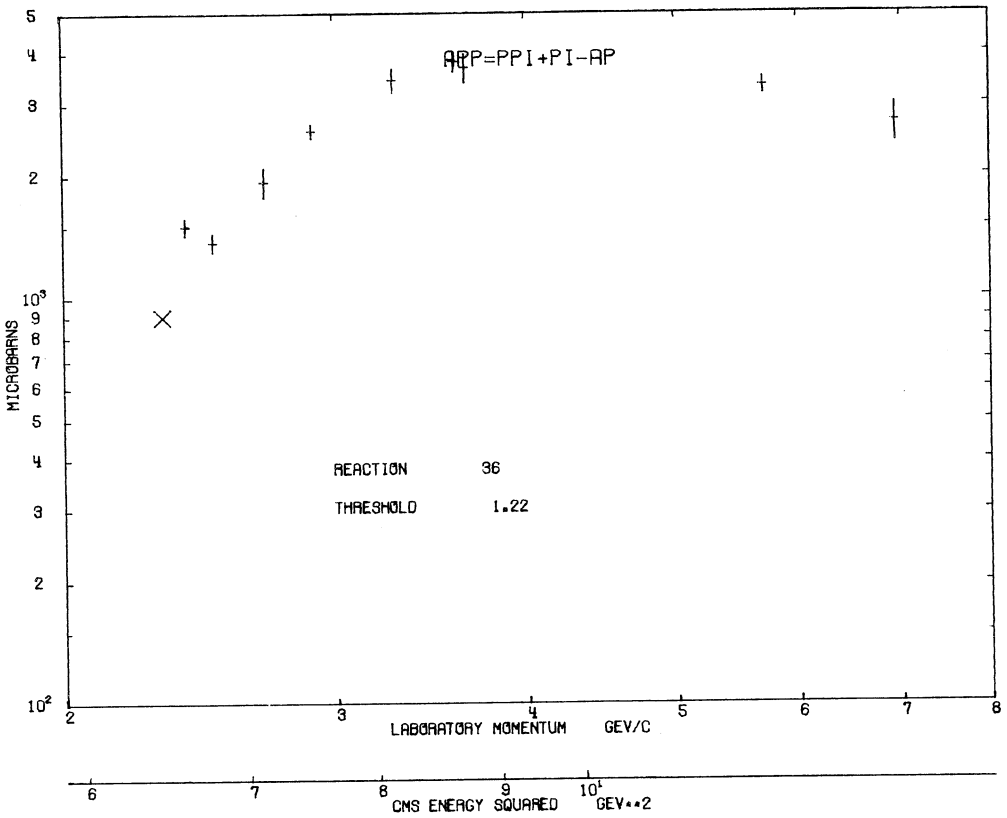

APP=ANNIHILATION INTO 4 PRONGS
MICROBARNS
REACTION 9
THRESHOLD .01
EXPONENT.N -.75
DELTA N .15
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

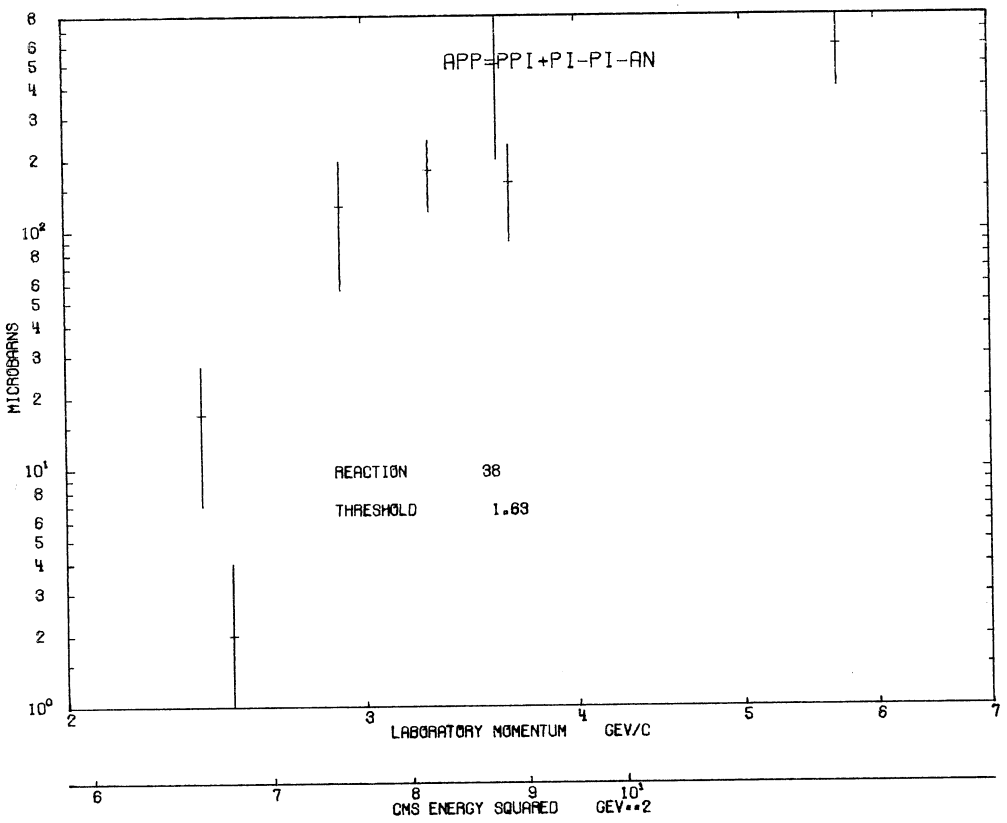

APP=0 PR.+ANN.INT02,4,6 PRONGS
MICROBARNS
REACTION 12
THRESHOLD .01
EXPONENT.N -.77
DELTA N .11
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

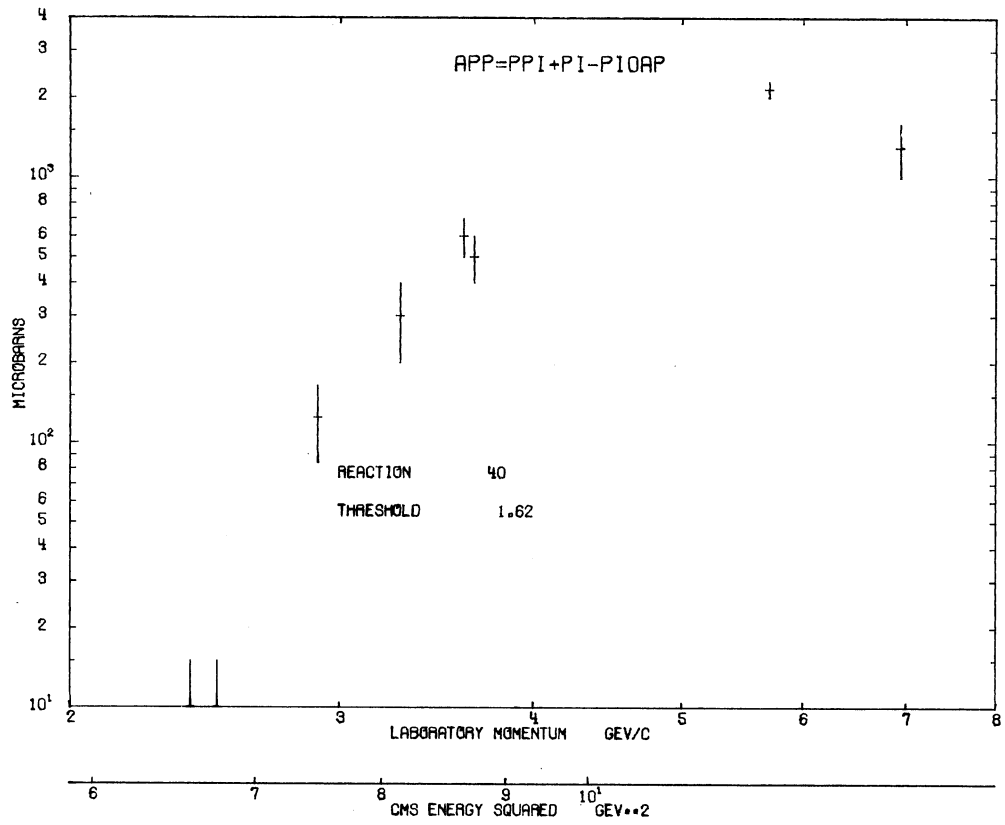

APP=8 PRONGS
MICROBARNS
REACTION 13
THRESHOLD 1.56
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

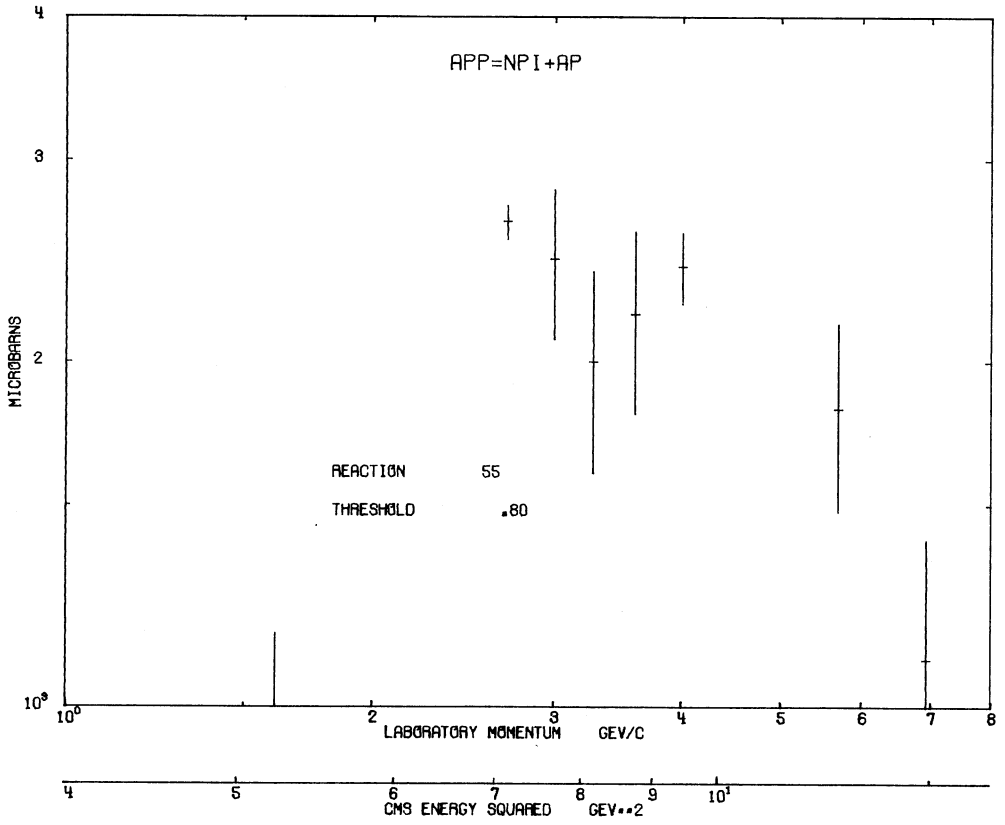

APP=TOTAL ANNIHILATION
MICROBARNS
REACTION 18
THRESHOLD .01
EXPONENT.N -.61
DELTA N .06
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

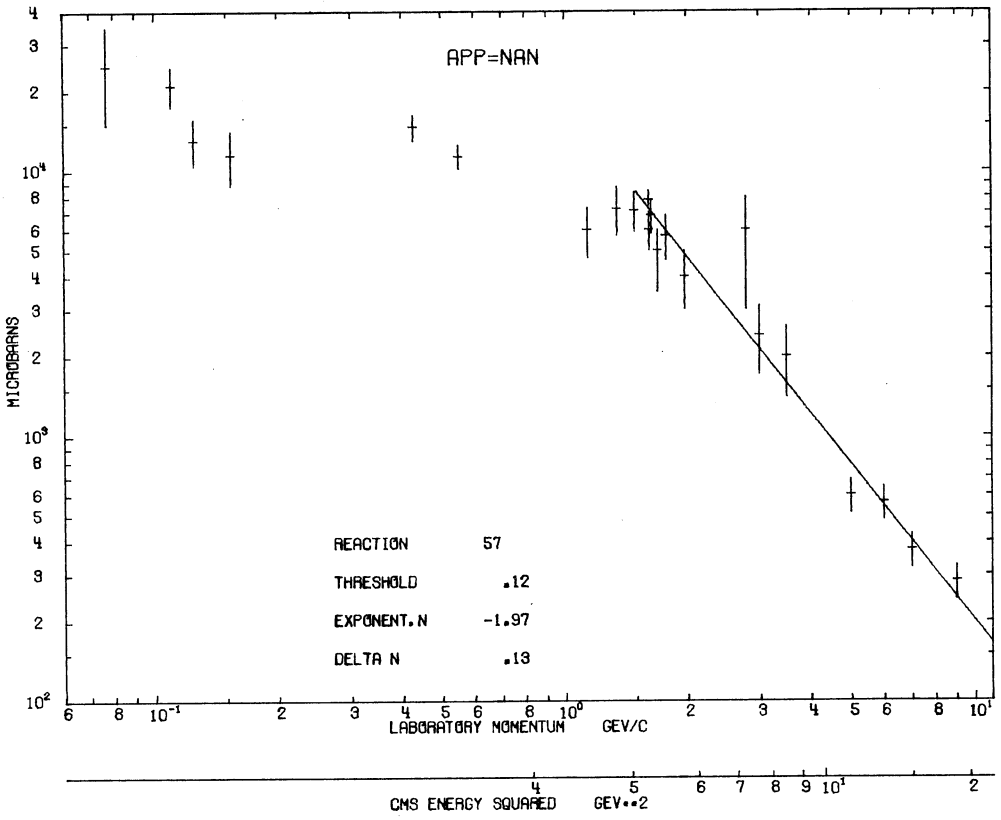

APP=INELASTIC+ ANNIHILATION
MICROBARNS
REACTION 20
THRESHOLD .01
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

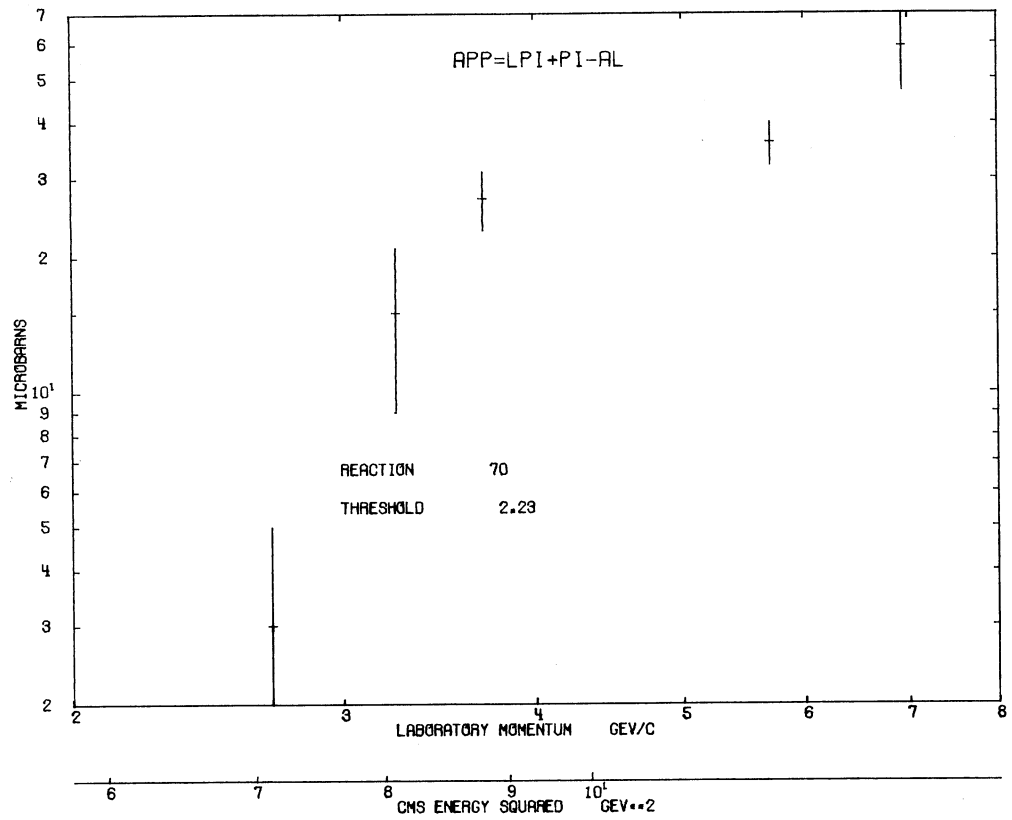

APP=PPI+PI-AP
MICROBARNS
REACTION 36
THRESHOLD 1.22
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

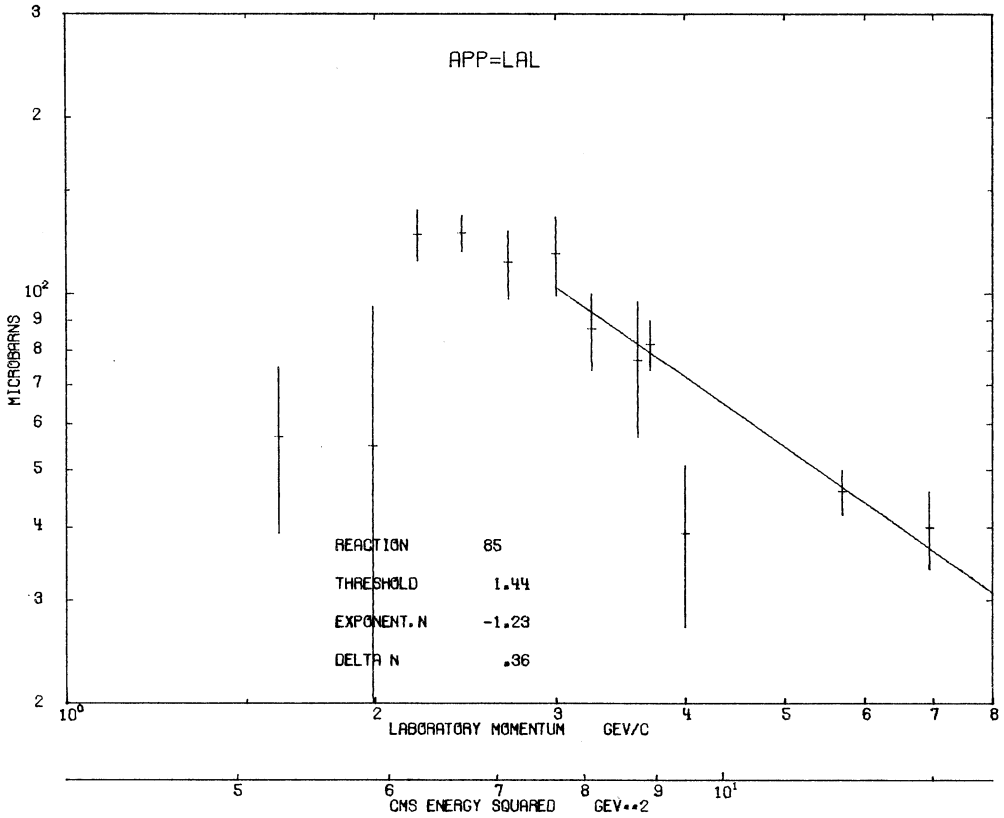

APP=PPI+PI-PI-AN
MICROBARNS
REACTION 38
THRESHOLD 1.63
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

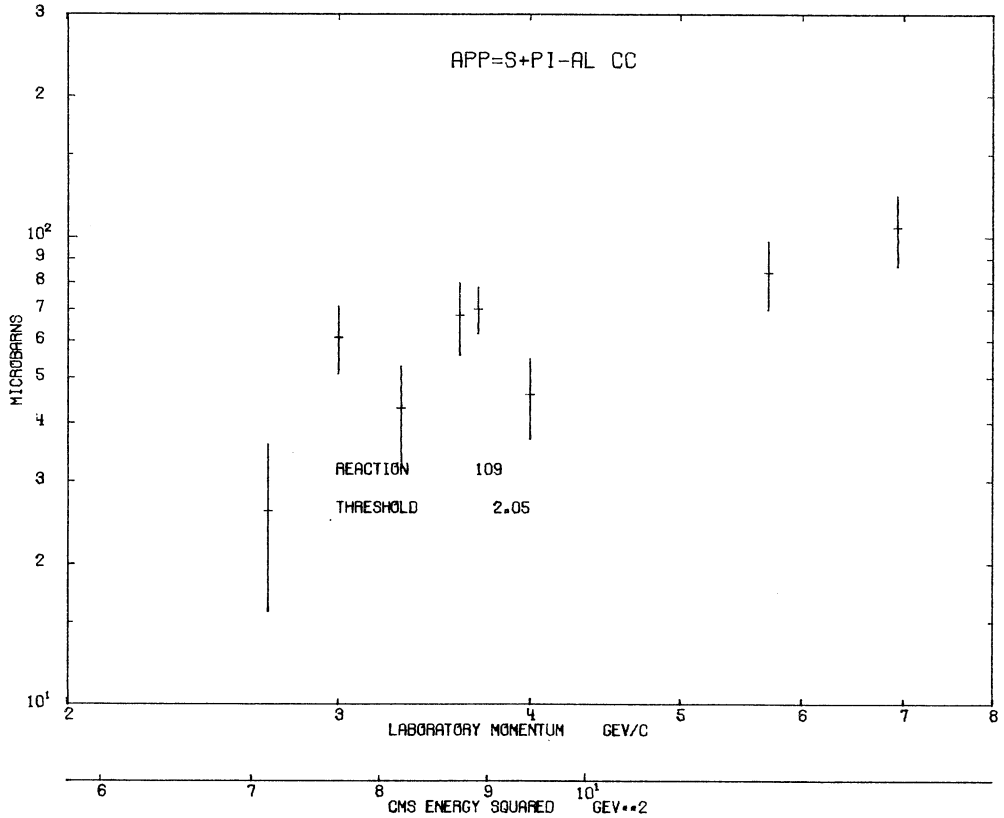

APP=PPI+PI-PIOAP
MICROBARNS
REACTION 40
THRESHOLD 1.62
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

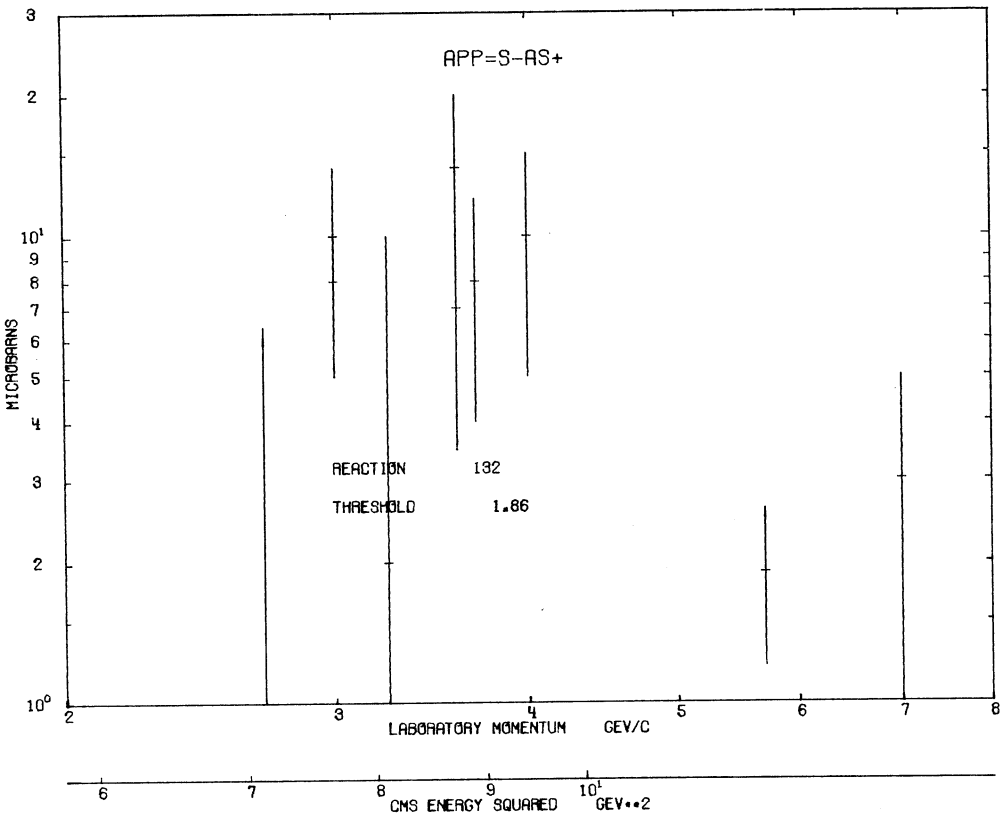

APP=NPI+AP
MICROBARNS
REACTION 55
THRESHOLD .80
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

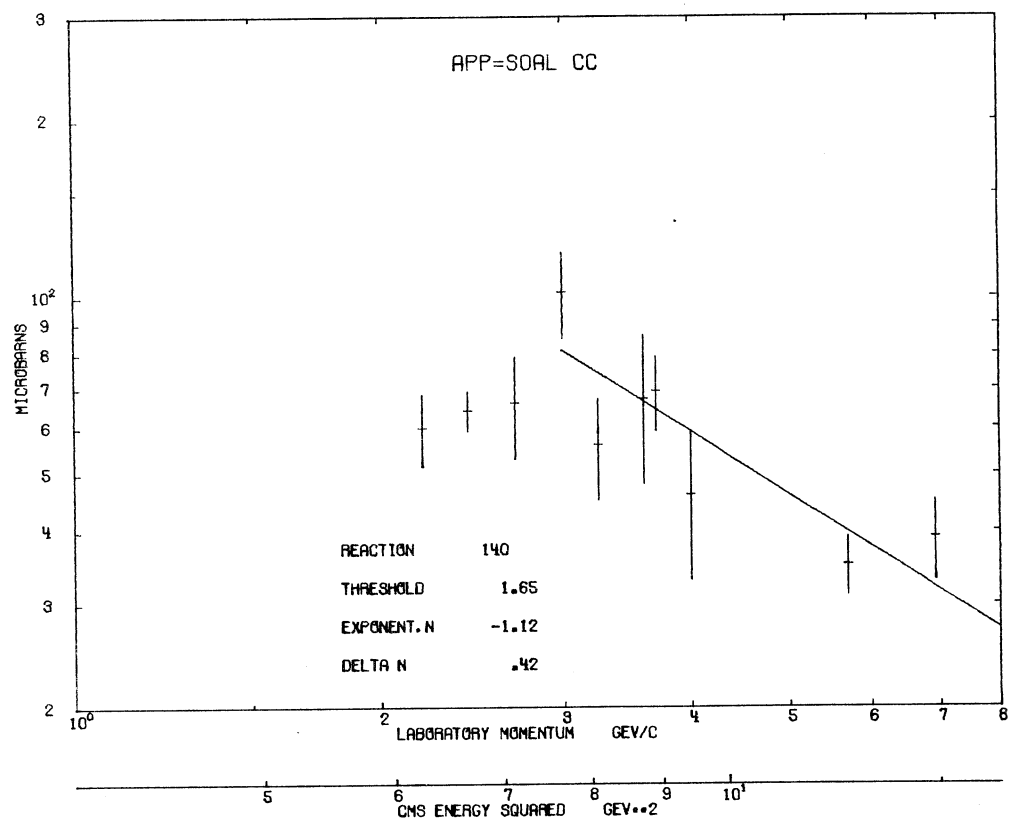

APP=NAN
REACTION 57
THRESHOLD .12
EXPONENT.N -1.97
DELTA N .13
MICROBARNS
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

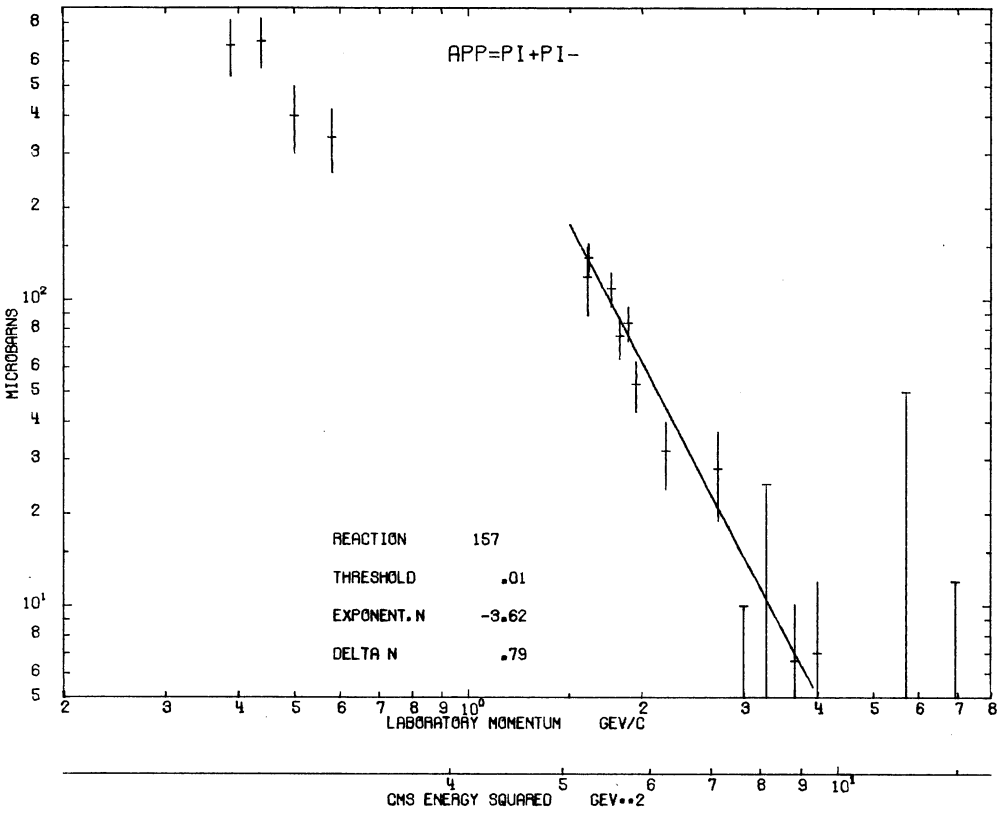

APP=LPI+PI-AL
REACTION 70
THRESHOLD 2.29
MICROBARNS
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

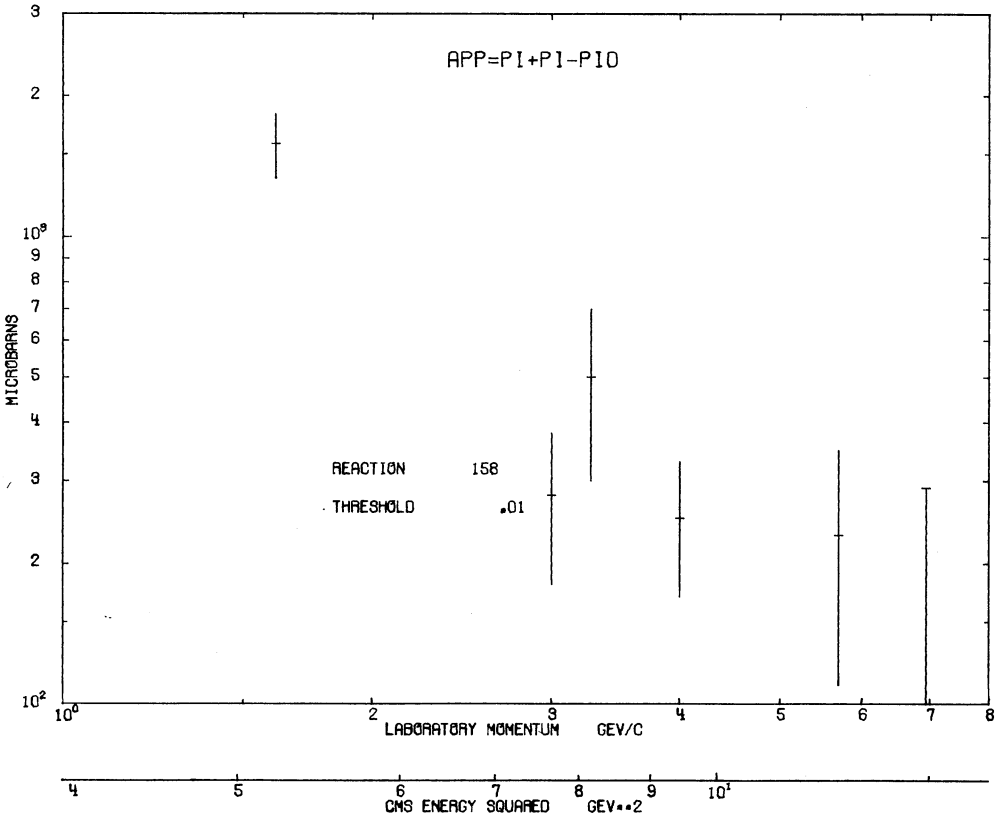

APP=LAL
MICROBARNS
REACTION 85
THRESHOLD 1.44
EXPONENT.N -1.23
DELTA N .36
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

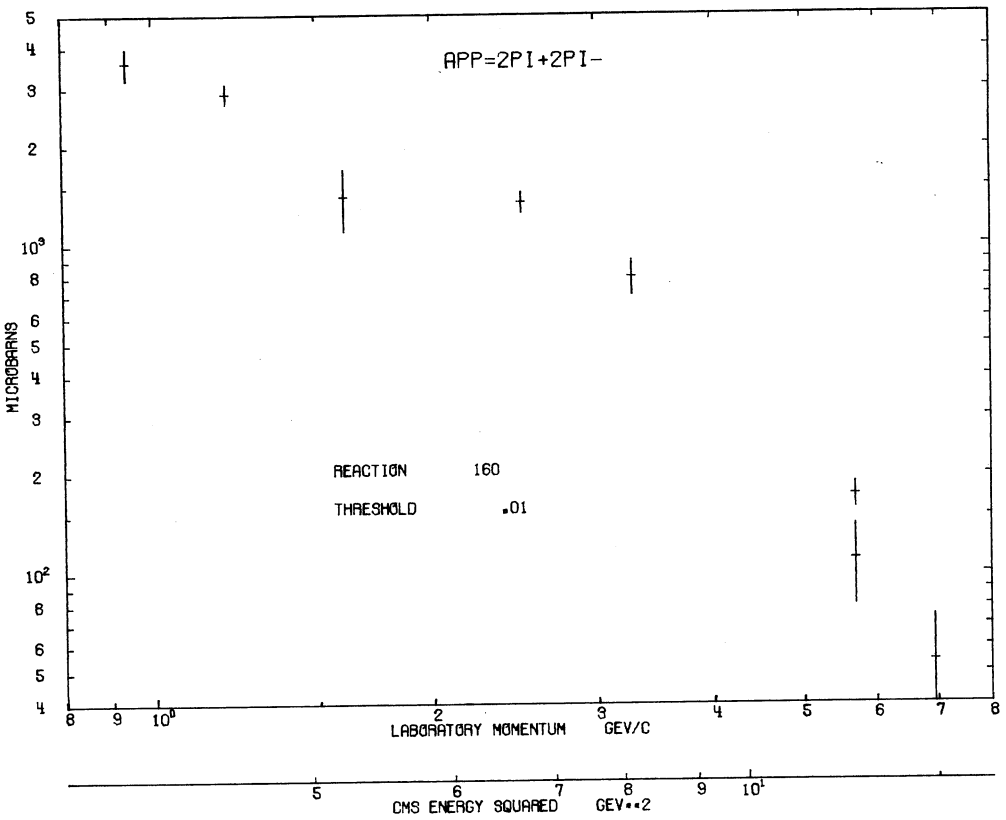

APP=S+PI-AL CC
MICROBARNS
REACTION 109
THRESHOLD 2.05
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

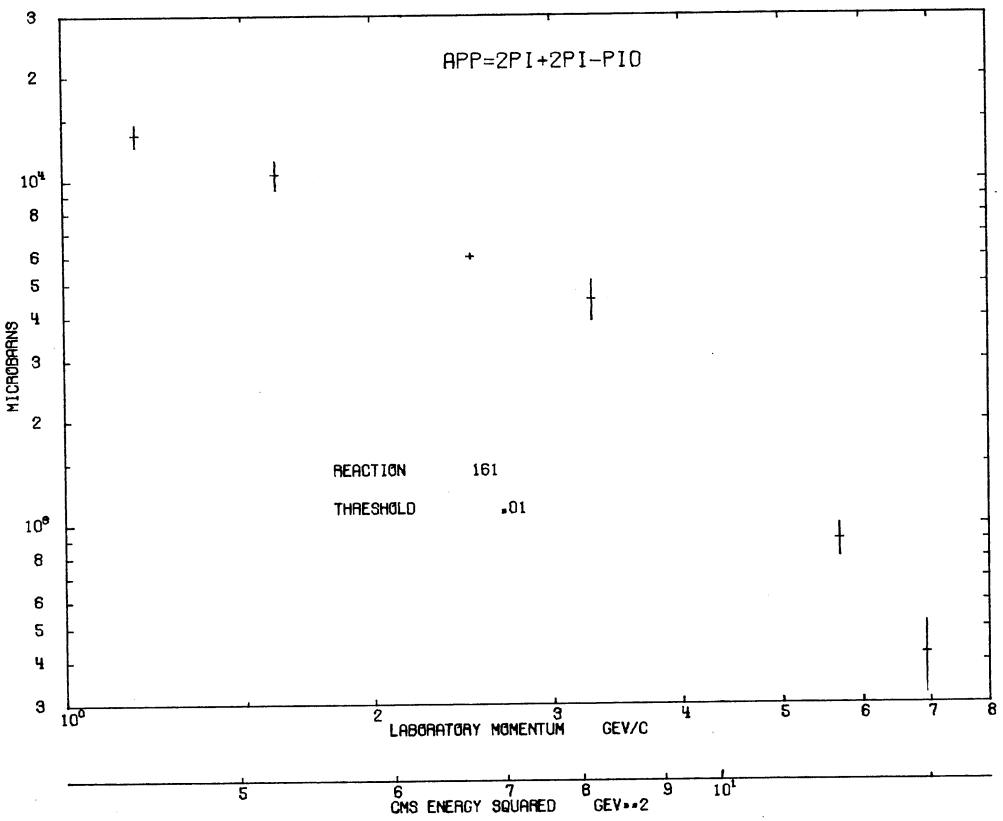

APP=S-AS+
MICROBARNS
REACTION 132
THRESHOLD 1.86
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

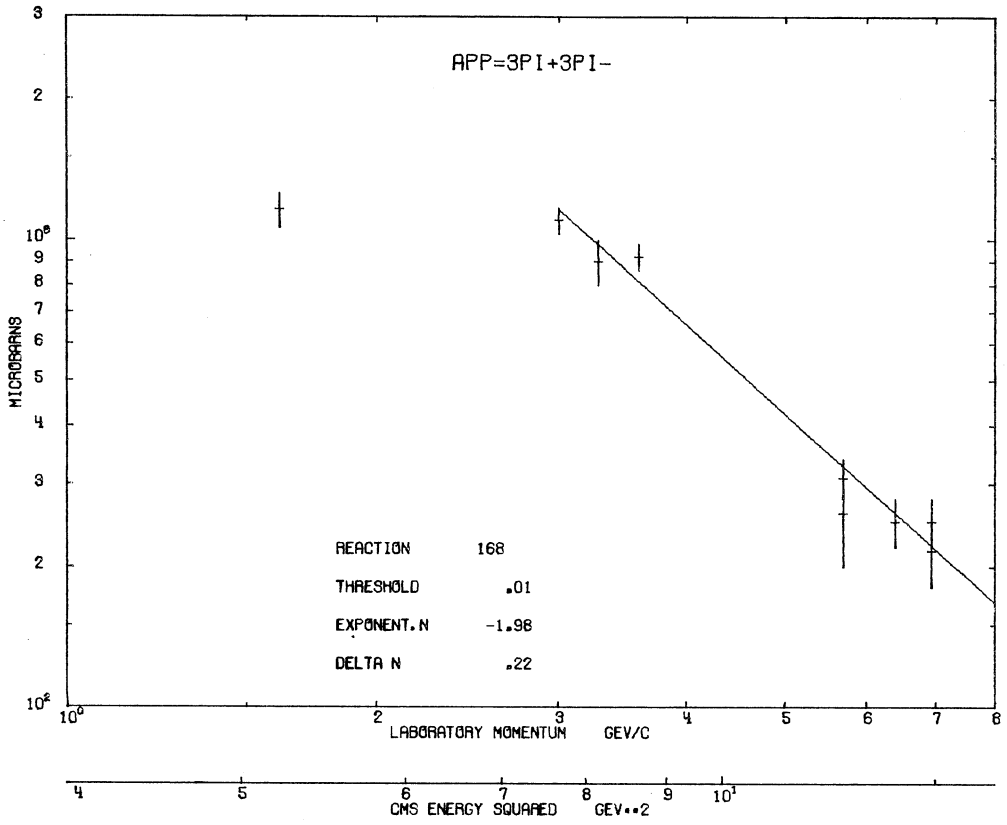

APP=SOAL CC
MICROBARNS
REACTION 140
THRESHOLD 1.65
EXPONENT.N -1.12
DELTA N .42
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

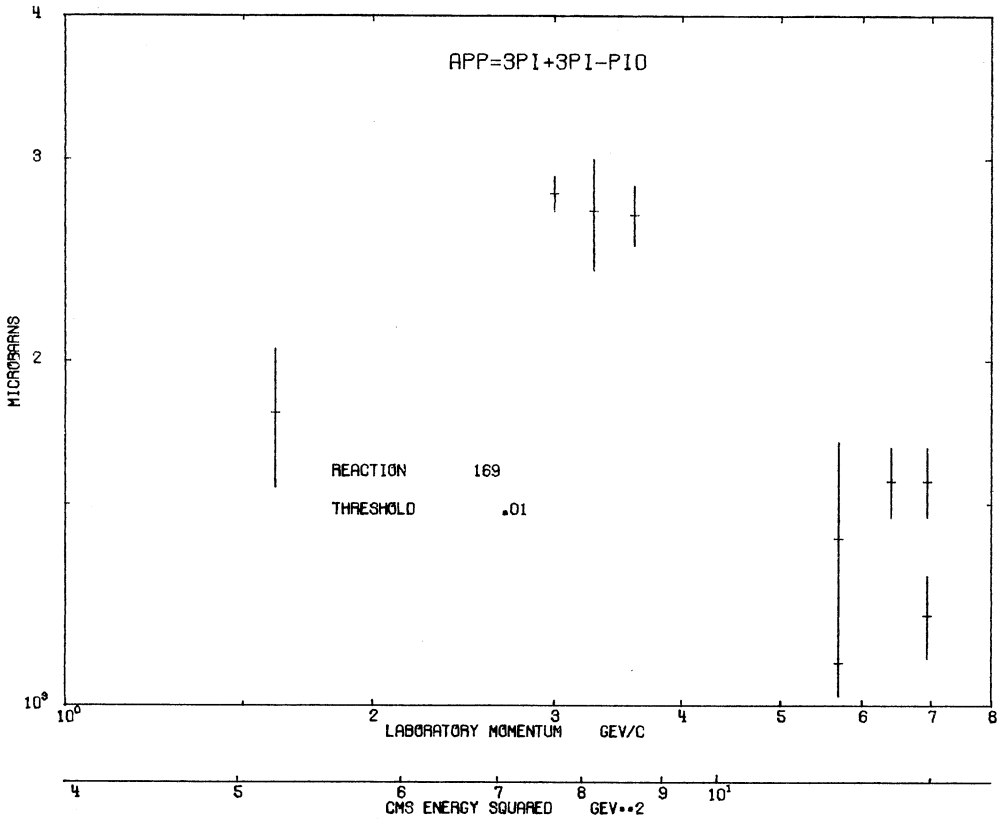

APP=PI+PI-
MICROBARNS
REACTION 157
THRESHOLD .01
EXPONENT. N -3.62
DELTA N .79
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

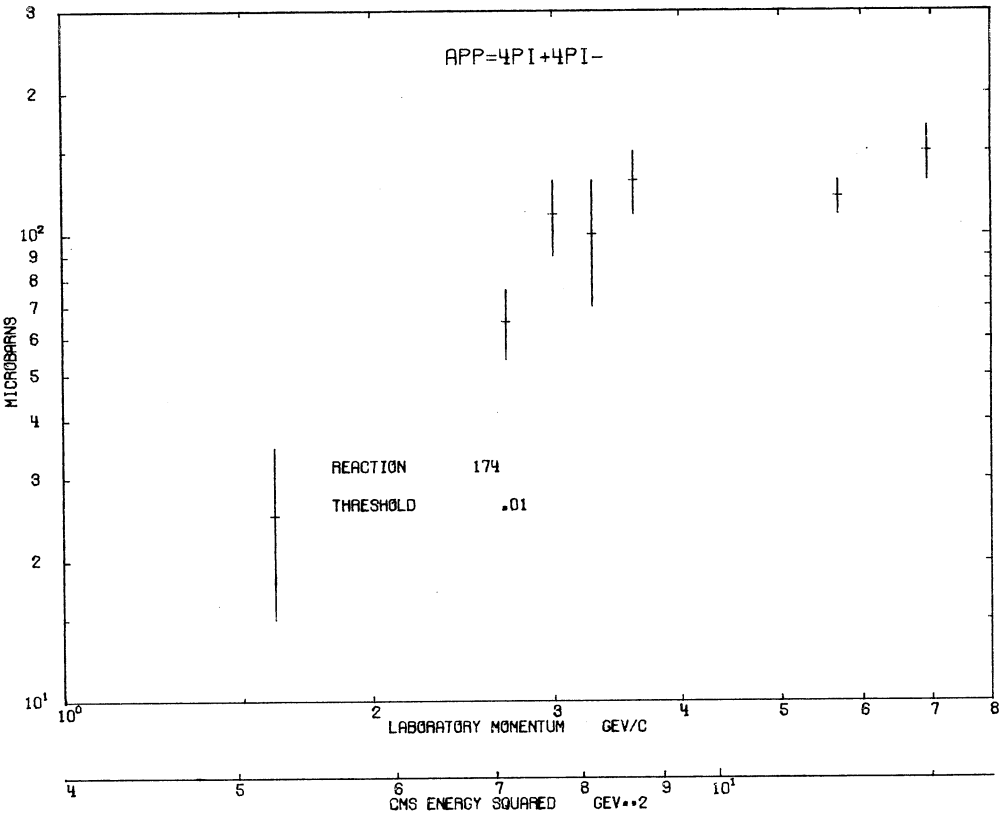

APP=PI+PI-PIO
MICROBARNS
REACTION 158
THRESHOLD .01
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

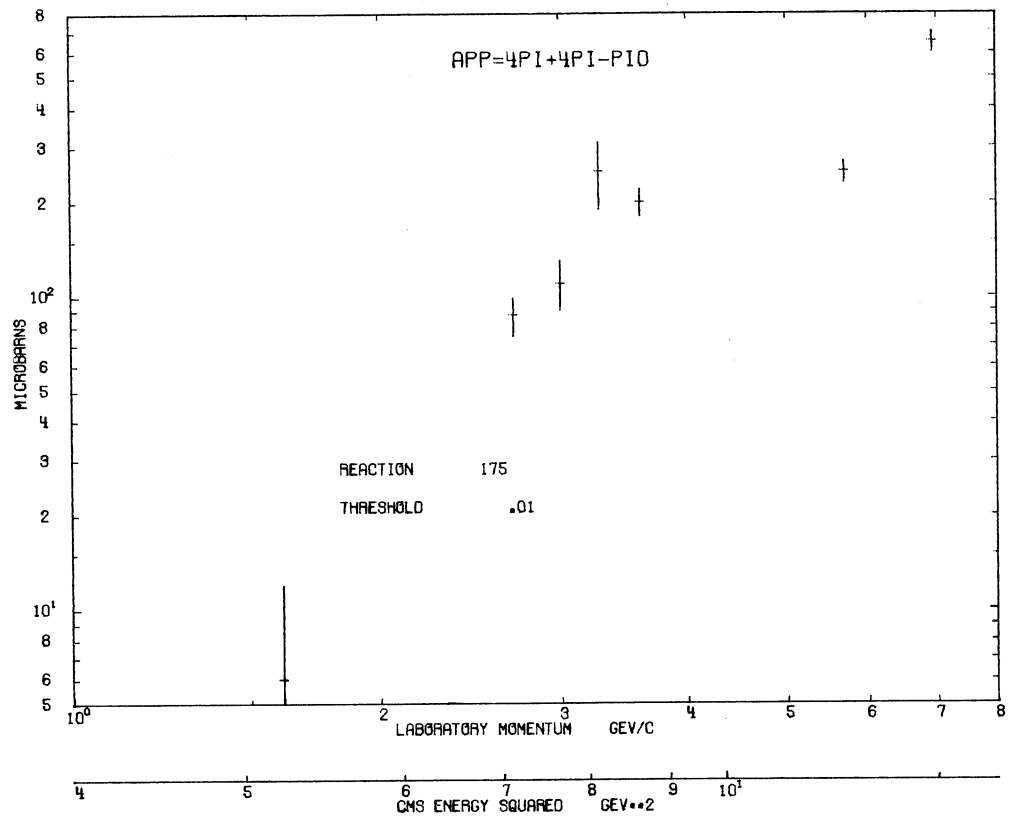

APP=2PI+2PI-
MICROBARNS
REACTION 160
THRESHOLD .01
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

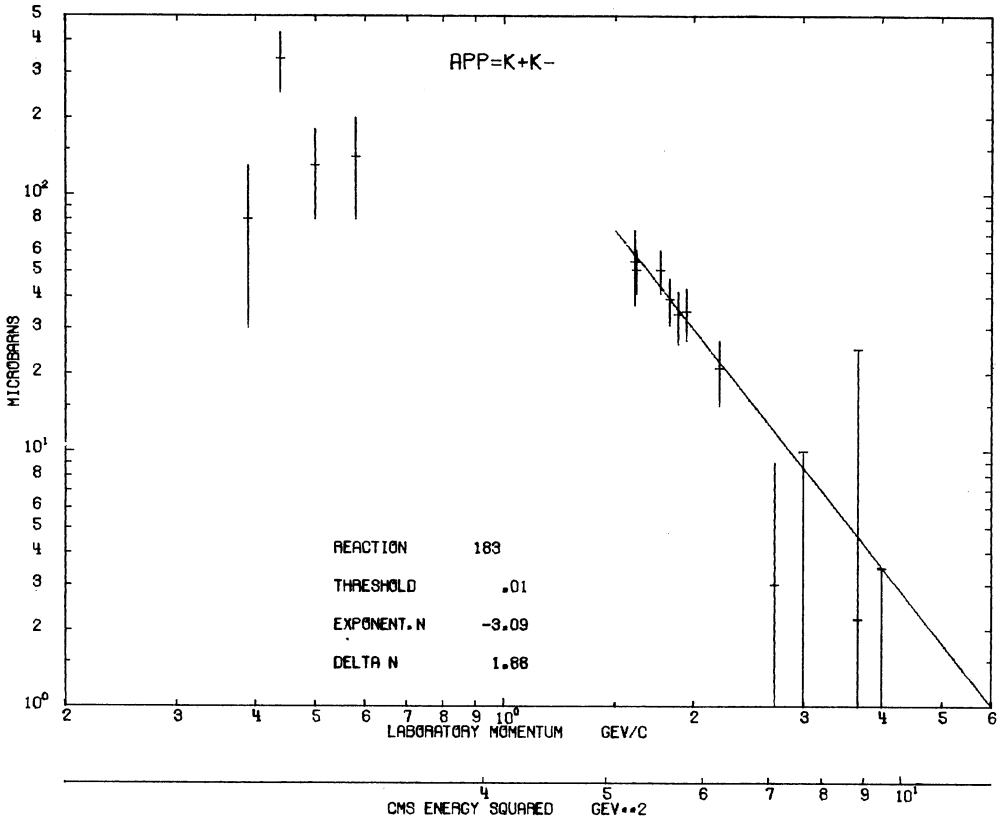

APP=2PI+2PI-PIO
MICROBARNS
REACTION 161
THRESHOLD .01
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

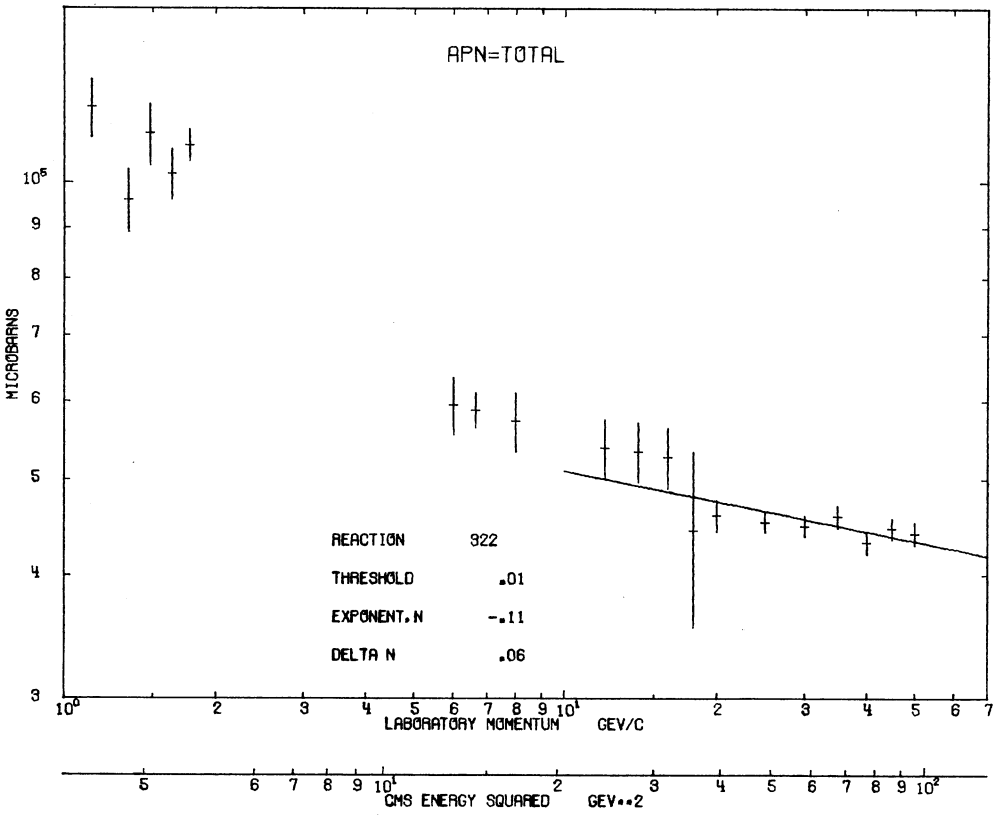

APP=3PI+3PI-
MICROBARNS
REACTION 168
THRESHOLD .01
EXPONENT.N -1.98
DELTA N .22
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

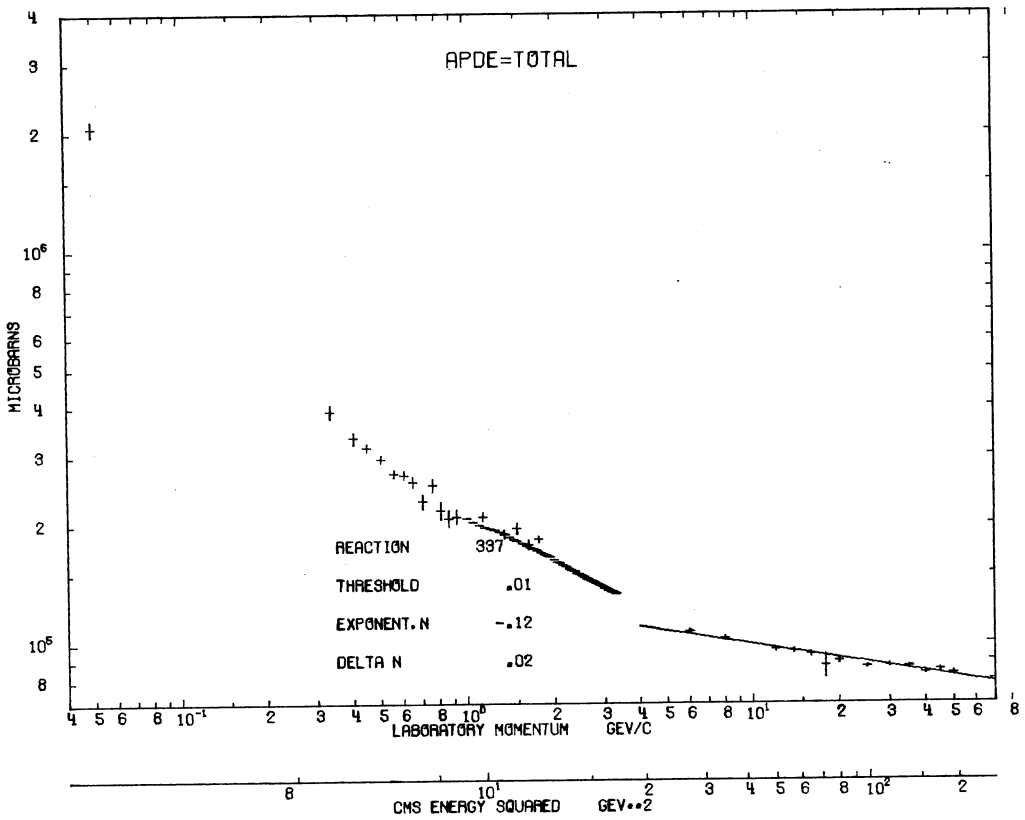

APP=3PI+3PI-PIO
MICROBARNS
REACTION 169
THRESHOLD .01
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2


APP=4PI+4PI-
REACTION 174
THRESHOLD .01
MICROBARNS
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2


APP=4PI+4PI-PIO
REACTION 175
THRESHOLD .01
MICROBARNS
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2


APP=K+K-
MICROBARNS
REACTION 183
THRESHOLD .01
EXPONENT.N -3.09
DELTA N 1.88
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2


APN=TOTAL
MICROBARNS
REACTION 322
THRESHOLD .01
EXPONENT.N -.11
DELTA N .06
LABORATORY MOMENTUM GEV/C
CMS ENERGY SQUARED GEV**2


APDE=TØTAL
MICROBARNS
REACTION 337
THRESHØLD .01
EXPØNENT.N -.12
DELTA N .02
LABØRATØRY MØMENTUM GEV/C
CMS ENERGY SQUARED GEV**2

LIST OF COMPILATIONS OF CROSS-SECTIONS

*)CERN HERA 69-1
GIACOMELLI G; PINI P; STAGNI S
A compilation of pion-nucleon scattering data.

CERN HERA 69-2
SADOULET B
Data compilation of anti-proton reactions into antihyperon-hyperon.

*)CERN HERA 69-3
GIACOMELLI G
A compilation of total and total elastic cross-sections.

CERN HERA 70-1
SPILLANTINI P; VALENTE V
A collection of pion photoreproduction data.

*)CERN HERA 70-2
HANSEN J D; MORRISON D R O; TOVEY N
Compilation of cross-sections;
I - Proton induced reactions.

*)CERN HERA 70-3
FLAMINIO E; HANSEN J D; MORRISON D R O; TOVEY N
Compilation of cross-sections;
II - Antiproton induced reactions.

CERN HERA 71-1
JACOBS L D; ROOS M; SANTIAGO S
Selective compilation of $\pi^- p \to \pi\pi N$ events from hydrogen bubble chambers.

CERN HERA 72-1
BRACCI E; DROULEZ J P; FLAMINIO E; HANSEN J D; MORRISON D R O
Compilation of cross-sections;
I - π^- and π^+ induced reactions.

CERN HERA 72-2
BRACCI E; DROULEZ J P; FLAMINIO E; HANSEN J D; MORRISON D R O
Compilation of cross-sections;
II - K^- and K^+ induced reactions.

*)BARASHENKOV V S and MALTSEV V M
Cross sections for elementary particle interactions.
Fortsch. Physik, 9, 549-611, 1961.

*)BARASHENKOV V S and PATERA J
Cross sections for antinucleon production.
Fortsch. Physik, 11, 469-478, 1963.

*)BARASHENKOV V S and PATERA J
Strange particle production.
Fortsch. Physik, 11, 479-501, 1963.

*)FOCACCI M N and GIACOMELLI G
Pion-proton elastic scattering.
CERN 66-18, 1966.

*)YUKAWA H, ed.
Experimental data on Hadron interactions in GeV region.
Supplement of the Progress of Theoretical Physics (Kyoto), extra number, 1967.

UCRL-20000 K^+N (September 1969)
A compilation of K+N reactions.

UCRL-20000 YN (January 1970)
A compilation of YN reactions.

UCRL-20001 (January 1970)
Compilations of elastic scattering data.

UCRL-20030 πN (February 1970)
πN partial-wave amplitudes.

UCRL-20000 NN (August 1970)
NN and ND interactions (above 0,5 GeV/c); a compilation.

LBL - 55 (March 1972)
$K^0_L N$ interactions; a compilation.

LBL - 58 (May 1972)
$\bar{N}N$ and $\bar{N}D$ interactions; a compilation.

LBL - 80 (August 1972)
A compilation of data on inclusive reactions.

*) out of print

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