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January 1973

EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

APPROVED EXPERIMENTS CERN PROTON SYNCHROTRON

January 1973

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W. Beusch
PS Co-ordinator

PS COUNTER EXPERIMENTS APPROVED BY THE NPRC

Table 1A

EXPERIMENTS ON THE FLOOR

Area Tgt.	Expt. Code	Beam Code	Beam Description	Description of Experiment	Authors	Date of NPRC Approval	Conditions of Approval and Time Alloc.	Status (~wks remaining)
South Hall - Target 1	S118 ✓	m_{13}	Separated k beam up to 2.8 GeV/c	Study of K_{e4} decay. Form factors $\Delta Q=\Delta S$ rule and low-energy π-π phase shifts. Magnetic spectrometer, wire chambers and large Čerenkov counters	Geneva-Saclay Collaboration: Bréhin, Bunce, Devaux, Diamant-Berger, Do-Duc, Marel, Turlay; Extermann, Fischer, Guisan, Mermod, Rosselet, Sachot	8.9.71 30.8.72	4 periods	March '73
	S120 ✓	d_{31a}	Unseparated $\pi^{\pm}, K^{\pm}, p^{\pm}$ < 12 GeV/c	Study of the reactions $\pi^+ + p \rightarrow \Sigma^+ + K^+, K^- + p \rightarrow \pi^- + \Sigma^+$ and other 2-body processes at 10GeV/c. Forward scattering. Magnetic spectrometer, wire chambers, Čerenkov counters	CERN-Birmingham-Genova-Stockholm-RHEL Coll.: Buran, Buzzo, Carlson, Damerell, Gracco, Helgaker, Homer, Jacassi, Johansson, Lundby, Macri, Ratcliff, Santroni, Sorum, Tso	3.11.71 30.8.72 11.10.72	2 periods	May '73
	S124 ✓	m_{11}	Separated $\bar{p}$ 1.2 to 2.4 GeV/c	Measurement of Polarization Parameter in $\bar{p}p \uparrow\rightarrow \pi^+\pi^-$ in the momentum range 1.2 →2.4 GeV/c	DNPL-QMC-RHEL Collaboration: Arnison, Astbury, Atkinson, Carter, Coupland, Duke, Eisenhandler, Gibson, Hill, Hojvat, Jeremiah, Jones, Kalmus, Kemp, Parsons, Pritchard, Williams, Woulds	12.4.72	2 periods	March '73
	S125 ✓	d_{31}	Unseparated $\pi^{\pm}$ 8 GeV/c	Investigation of spin-dependence of pion-induced inclusive reactions $\pi^{\pm} p(\uparrow) \rightarrow \pi^{\pm} +$ anything	CERN-Orsay-Oxford Collaboration: Aschman, Booth, Caverzasio, Dick, Gonidec, Green, Gsponer, Kuroda, Michalowicz, Phizacklea, Poulet, Salmon	30.8.72	1st period	March '73
	S126 ✓	m_9	Separated negative beam < 4 GeV/c	$\pi^- p \uparrow \rightarrow \Sigma^- K^+$ and $\pi^- p \uparrow\rightarrow p\pi^-$ at 3.5 GeV/c, and $\lvert u \rvert < 0.6$ and 1 $(GeV/c)^2$, respectively. Polarized target, counters and wire chambers	CERN-Trieste Collaboration: Bradamante, Contento, Conetti, Daum, Fidecaro, Fidecaro, Giorgi, Keaton, Penzo, Piemontese, Schiavon, Vascotto	11.10.72	3 periods	April '73

Table 1A (cont'd)

Area Tgt.	Expt. Code	Beam Code	Beam Description	Description of Experiment	Authors	Date of NPRC Approval	Conditions of Approval and Time Alloc.	Status (~wks remaining)
South Hall	P7	k_{18}	Separated beam, stopping K^-, $\bar{p}$ and Σ^-	Experiments with K^-, $\bar{p}$, Σ^- - atoms, s-wave K^-p and $\bar{p}p$ scattering length and nuclear matter distribution. Ge(Li) detector for X-rays	Karlsruhe-Stockholm Collaboration: Backenstoss, Bunaccius, Egger, Hagelberg, Herrlander, Koch, Povel, Schwitter, Tauscher, Von Egidy	3.11.71 5. 7.72 11.10.72	shares 5 periods with P11	Beam Tests finished Febr. 1973
East Hall	S11	p_8	Unseparated $\pi^{\pm}, K^{\pm}, p^{\pm}$ < 18 GeV/c	"Exotic exchange" reactions $\pi^- p \rightarrow K^* \Sigma^-$ at 5 GeV/c incident pion momentum. The target is surrounded by two 12-element cylindrical hodoscopes; the inner sensitive to charged particles, the outer one to gamma rays. Proportional chambers + 2 m bending magnet	IPN-Orsay: Guillaud, Lepeltier, Minard, Pessard, Viennot, Willitts, Yvart and Dekkers (CERN)	3.2.71 5.7.72	3 wks (Test) + 3 weeks	In Prod. (3 weeks)
	S19	p_{13}	Unseparated high energy $\bar{p}$, π, k beam up to ~20 GeV/c	High statistics measurement of quasi two-body reactions $\pi^+ p \rightarrow \pi^+ \pi^+ n, K^+ K_S^0 p$ at 15 GeV/c and $\pi^+ \pi^+ n$ at 7 GeV/c. Wire chamber magnetic spectrometer (AEG). Cerenkov counters.	CERN-Münich Collaboration: Blum, Dietl, Grayer, Hentschel, Hyams, Jones, C., Koch Lorenz, Männer, Meissburger, Stierlin, Richter	12.10.71	4 wks (Test) + 6 weeks	In Prod. (2 periods)
	S21	y_1	Hyperon beam derived from e_{9n}, north branch of e_9	Leptonic decays of negative hyperons, DiSC, streamer chambers, magnetic spectrometer	CERN-Orsay-Ec.Poly.-Strasbourg Coll.: Badier, Blaising, Chatelus, Chollet, Decamp, Gaillard, Lefrançois, Merkel, Morand, Navarro-Savoy, Repellin, Romana, Sauvage, Stanko, Vanderhagen, Videau H., Videau I.	1.12.71 5.7.72 6.12.72	Until start of S129	In Prod.
	S22	p_{13}	Unseparated high energy p, π, k beam up to ~20 GeV/c	Coherent production of I=1/2 baryon states on helium. Helium recoil spectrometer used in connection with the apparatus of S19	CERN-RHEL-UCL-Uppsala Collaboration: Bruton, Curran, Davies, Ekelöf, Fisher, Hagberg, Herz, Heyman, Imrie, Kullander, Lush, Wilkin	2.2.72	2 periods	1973

Table 1A (cont'd)

Area Tgt.	Expt. Code	Beam Code	Beam Description	Description of Experiment	Authors	Date of NPRC Approval	Conditions of Approval and Time Alloc.	Status (~wks remaining)
East Hall	S123 ✓	b_{19}	Neutral K_L, K_S beam from the South branch of e_9	Measurement of the K^0 charge radius by K_S regeneration from electrons	CERN-Heidelberg Collaboration: Eisele, Dydak, Geweniger, Gjesdal, Lüth, Kleinknecht, Steffen, Steinberger, Vanucci, Wahl, Williams E., Zech	1.3.72 30.8.72	3 weeks + 2 periods	In Prod. (2 periods)
	P9 ✓	k_{12a}	Low-energy K meson beam with energy loss separation derived from slow ej. beam e_9	Production of hypernuclei by K^- interactions in flight	Torino: Bonazzola, Bressani, Chiavassa, Cester, Dellacasa, Fainberg, Freschi, Gallio, Mirfakhrai, Rinaudo	3.3.71 4.6.71 12.4.72 11.10.72	6 weeks 2 periods	In Prod. (2 periods)
	P17 ✓	e_9	Ejected proton beam	p-^{4}He coherent scattering. Observation of helium recoil with solid state detector	Clermont-Ferrand- Lyon-Strasbourg Coll.: Berthot, Brossard, Burge, Combe, Eberlé, Fridman, Gardes, Gerber, Ille, Lambert, Madjar, Martin, Meritet, Querrou, Schemarin, Vaseille, Voltolini	12.10.71 11.10.72	Parasitic	Up to 1.4.1973 + 2 periods
N-E	P19 ✓	e_8	Ejected proton beam 1 burst in 5	Study of exotic (very neutron-rich) isotopes produced in the reaction of high energy protons on U. On-line mass spectrometer	Orsay: Klapisch et al.	11.10.72	3 weeks 1:5 burst	March 1973

Table 1B

EXPERIMENTS IN THE COURSE OF PREPARATION

Area Tgt.	Expt. Code	Beam Code	Beam Description	Description of Experiment	Autors	Date of NPRC Approval	Conditions of Approval and Time Alloc.	Start
East Hall	S127	k_{12}	K meson beam with energy loss separation, K^+ stopping, derived from e_g	Study of $K^+_{\ell 3}$: $f_+(q^2)$ and $\xi(q^2)$; spectrometer with drift chambers for e^+,μ^+; NaI(Tl) and lead glass counters for π^0	CERN-Heidelberg Collaboration: Heintze, Heinzelmann, Igo-Kemenes, Mundnenke, Rieseberg, Schürlein, Siebert, Soergel, Stelzer, Streit, Wagner, Walenta	1.11.72	4 periods after P9	June 1973
	S128	b_{19}	Short neutral beam from e_{9s}, south branch of e_g	Measurement of the Σ^0 life-time, by Σ^0 production in the Coulomb field of nuclei by incident Λ. Spectrometer with proportional chambers and lead glass γ counters	CERN-Heidelberg Collaboration: Eisele, Geweniger, Gjesdal, Lüth, Kamae, Kleinknecht, Presser, Steffen, Steinberger, Vanucci, Wahl, Williams	1.11.72	4 periods	June 1973
	S129	y_1	Hyperon beam derived from e_{9n}, north branch of e_g	Study of elastic scattering of negative hyperons and diffractive production of Y*. DISC, streamer chambers, magnet spectrometer, proton recoil detector	CERN-Orsay-Ec.Poly.-Strasbourg Coll.: Badier, Blaising, Chatelus, Chollet, Decamp, Gaillard, Lefrançois, Merkel, Morand, Navarro-Savoy, Repellin, Romana, Sauvage, Stanko, Vanderhagen, Videau H., Videau I.	6.12.72	No time allocation	Aug. '73
	S130			Study of $K^0_L + p \rightarrow K^0_S + p$ in the momentum interval $2 \leq p_{K_L} \leq 16$ GeV/c, magnet spectrometer for $K^0_S \rightarrow \pi^+\pi^-$, p recoil detector	Collège de France-Padua Collaboration: Chavanon, Crozon, Diaczek, Leray, Leruste, Mendiburu, Tocqueville, Valentin; Calvelli, Cittolin, Gasparini, Limentani	6.12.72	No beam allocation	No time allocation
	S131			$K^-p \rightarrow \bar{K}^0\pi^- p$ and $K^+p \rightarrow K^0\pi^+p$ at ~10 GeV/c. Proportional wire chambers, time-of-flight measurement in proton arm, no magnet	Geneva-Indiana Collaboration: Böhringer, Busnello, Kienzle-Focacci, Lecomte, Martin, Mermoud, Nef; Crittenden, Heinz, Neal, Rust	7.12.72	No beam allocation	No time allocation
South	P11	k_{18}	Separated beam, stopping K^-, $\bar{p}$ and Σ^-	High resolution hypernuclear spectroscopy	CERN-Heidelberg Collaboration: Faessler, Brückner, Lynen, Povh, Ritter, Kilian, Walenta, Schürlein, Soergel	11.10.72	shares 5 periods with P7	June 1973

Table 1B (cont'd)

Area	Expt. Code	Beam Code	Beam Description	Description of Experiment	Authors	Date of NPRC Approval	Conditions of Approval and Time Alloc.	Status
South-East FE74	S 97		π beam produced from fast ejected protons (p_{π} = 3.1 GeV/c)	Precise measurement of the anomalous magnetic moment of the muon. Muon Storage Ring ($\emptyset$=15 m) with vertical focusing provided by an electrostatic quadrupole	CERN-Mainz- Coll.: Bailey, Borer, Drumm, Eck, Farley, Flegel, Field, Klempt, Krienen, Lebee, Petrucci, Picasso, Runolfsson	24. 9. 69	No Time Alloc.	In Preparation

Table 1C

PS COUNTER EXPERIMENTS APPROVED BY THE NPRC FOR THE FIRST YEAR OF RUNNING OF "OMEGA"

NPRC Approval: 3.3.1971

Area Tgt	Expt. Code	Description		Description of Experiment	Authors
West Hall - S.E. 16	S112 ✓	p_9	$\leq$ 15 GeV/c This beam is produced at 25 mrad from a target located at about 63 m from the Omega magnet. Its maximum momentum is 17 GeV/c. Its angular acceptance 125 μster. The obtainable rate is comparable with that of p_{13} in the East Hall, that is several 10^5 particles up to several 10^6 particles per burst in function of the energy and polarity. The design will permit a momentum resolution at the momentum slit of the order of 0.25%.	To study zero strangeness bosons using a neutron trigger. Main objective to obtain precise information on, and quantum number of I = 0 and I = 1 boson states in mass region 1.5 - 2.0 GeV/c	Birmingham-RHEL-Tel Aviv-Westf.Collaboration: Dowell, Jobes, Kenyon, McMahon; Corbett, Garvey, Jane, Jones, Lipman; Dagan, Grunhaus; Bellamy, Green, Osmon, Strong
	S113 ✓	"		To study zero strangeness, charged boson spectrum using a proton time-of-flight trigger. Proposed to study reaction $\bar{\pi} p \rightarrow p X^-$. The explored missing mass region (M_X-) is 1.5 - 2.0 GeV/c	CERN-Bari-Bonn-Daresbury-Liverpool-Milan Coll.: Atherton, Eades, French, Ghidini, Grant, Mandelli, Moebes, Novach; Armenise, Picciarelli, Romano, Silvestri; Idschock, Nellen, Müller; Bailey, Smith, Edwards, Fry; Bellini, Cantore, Di Corato, Manfredi, Vegni
	S114 ✓	"		To perform an experiment on baryon exchange with production of a forward Λ. Possible reactions to be studied are: $\pi^- + p \rightarrow \Lambda^0 + (K^0, K^*, K^{**}$, etc.) $K^- + p \rightarrow \Lambda^0 + (\pi^0, \eta, \rho, \omega, X^0, \emptyset, f^0$ etc.)	CERN-ETH-Karlsruhe-Freiburg i.Br., Saclay, Beusch, Dufey, Fluri, Gildemeister, Michelini; Engler, Weber; Hartung, Runge; Bareyre, Hubbard, Laurens, Muller, Villet, Zylberajch
	S115 ✓	"		To study baryon-antibaryon pair production. The basic idea is to use an efficient and selective trigger on fast forward antiprotons, which can be directly produced by primary reactions, or be decay products from $\bar{\Lambda}$ or $\bar{\Sigma}$	Glasgow-Saclay Collaboration: Hughes, Lewis, Smith, Turnbull; Hubbard, Laurens, Moscoso, Muller, Zylberajch
	S116 ✓	"		To study non-diffractively produced $\bar{K}^*$ resonances. The $\bar{K}^*$'s are produced in a process where the Q bumps seem to be absent; the $\bar{K}^0$ in the final state is unambiguously identified. The trigger system will favour $\bar{K}^*$'s of low mass (< 2 GeV) and produce a low t value	CERN-ETH-Collaboration: Beusch, Freudenreich, Fluri, Gentit, Michelini, Pernegr, Websdale, Wetzel
	S117 ✓	"		To study the quasi two-body reactions proceeding through baryon exchange mechanism; in such reactions a baryon (Proton, hyperon, resonance) is emitted forward and its decay provides the fast proton required to trigger the optical chambers	CERN-Coll.de France-Ec.Poly.-Orsay Collaboration: Sadoulet; Rivet; Briandet, Fleury, Rougé; D'Almagne, Lehmann, Treille

Tests have been performed between June and October 1972 to allow starting data taking in 1973 immediately after the shut-down.

Table 1 D

SEARCH FOR HEAVY FRAGMENTS AND SUPERHEAVY ELEMENTS APPROVED BY NPRC

Area	Expt. Code	Description	Description of Experiment	Authors	Date of NPRC Approval	Conditions of Approval
East Hall	P12	External target in beam e_6	Search for very energetic heavy fragments and recoils produced by proton bombardment of heavy nuclei	CERN-DIAS, Dublin-Warsaw Collaboration: Herz, O'Ceallaigh, O'Sullivan, Thompson, Zielinski	4.6.1971	All the exposures requested are parasitic ones. They will be carried out subject to not interfering appreciably with the PS programme. The distribution of irradiated materials shall continue to be coordinated by the Chairman and the Secretary of the Physics III Committee.
East Hall	P13	"	Investigation of the production of elements with Z > 30 formed by the interaction of 28 GeV protons with Cu	Darmstadt: Bächmann, Lieser	"	
East Hall	P15	External target in beam e_9	Experiments on the production of superheavy elements	Marburg-Darmstadt Collaboration: Brandt, Laubereau, Patzelt; Bächmann et al.	"	
East Hall	P16	"	Search for superheavy elements	RHEL - Manchester - Risley Collaboration: Batty, Marinov		
East Hall	P18	Internal target in beam e_9	Fragmentation cross sections for astrophysics	Orsay: Yiou, Raisbeck, Perron, Fontes	2.2.1972 7.2.1973	
East Hall	P20	External target in beam e_9	Search for superheavy elements	Jerusalem: Marinov et al.	7.2.1973	

PS COUNTER EXPERIMENTS APPROVED BY THE NPRC

Table 1E

EXPERIMENTS FINISHED DURING THE PS YEAR (1.1.72 - 23.12.72)

Expt. Code	Beam Code	Beam Description	Description of Experiment	Authors	Date Approval/Completion		Total weeks	Status
S1C5 ✓	m_9	Enriched K, $\bar{p}$ < 4.1 GeV/c	Polarisation in backward scattering. $\pi^- p_{\uparrow} \rightarrow p\pi^+$, $K^+ p_{\uparrow} \rightarrow pK^+$, $\pi^+ p_{\uparrow} \rightarrow \Sigma^+ K^+$. Polarised target, scintillators, wire spark chambers. HP 2116 B	CERN-Trieste Collaboration: Bradamante, Conetti, Daum, Fidecaro G., Fidecaro M., Giorgi, Kalmus G., Piemontese, Penzo, Schiavon, Vascotto	6. 5.70 28.10.70 3.11.71 31. 5.72	31 .8 .72	2 (T) 10 7 5	Submitted for publication
P7 ✓	k_{17}	Separated K, $\bar{p}$ < 1 GeV/c	Studies of $\bar{p}$, K^- and Σ^- atoms. Stopped beam. X-ray detection with Ge(Li) solid state detectors	Karlsruhe-Stockholm Collaboration: Backenstoss, Bergström, Buracciu, Egger, Hagelberg, Hassler, Koch, Povel, Rolli, Schwitter, Tauscher	3.11.71 5. 7.72	31. 8.72	2 Periods 2 "	Beam tests finished
S 91 ✓	d_{30}	Unseparated $\pi^{\pm}$, $K^{\pm}$, $p^{\pm}$ < 12 GeV/c	K^+p, K^-p, $\bar{p}p$ forward and backward scattering, annihilation of $\bar{p}p$ in 2π's or 2 K's at small angles (high energy part). C magnet, on-line wire chambers, gas Čerenkov counter, IBM 1800	CERN-Ec.Pol., Paris-Orsay (Acc.Lin.)-Stockholm Coll.: Baglin, Briandet, Carlson, D'Almagne, Damerell, Eida, Fleury, Gracco, Homer, Johansson, Lehmann P., Lundby, Navarro, Pevsner, Ratcliff, Richard, Rosny, Treille, Tso	8. 4.70 28.10.70 1.12.71 31.5. 72	1. 6.72	4 (T) 6 5 2	Partly published
S104 ✓	d_{30a}	Unseparated $\pi^{\pm}$, $K^{\pm}$, $p^{\pm}$ < 12 GeV/c	Strangeness + 1 missing mass in $\pi^- p \rightarrow \Lambda^0 + M$. Scintillators, spark chamber, water Čerenkov counter	University of Rome-RHEL Coll.: Dore, Guidoni, Laakso, Marini, Martelotti, Massa, Piredda, Pistilli, Conforto, Hart, Mallary, Middlemas, Rosner, Walker	6. 5.70 4. 6.71 2. 2.72 31.5.72 30. 8.72	20. 9.72	2 (T) 2 4 3	Analysis
S 99 ✓	m_{11}	Low-energy separated beam to produce high flux of $\bar{p}$ between 0.6 and 2.0 GeV/c (Modified q_9)	Differential cross sections for $\bar{p}p \rightarrow \bar{p}p$, $\pi^+\pi^-$, K^+K^- between 0.6 and 2.0 GeV/c. Wire chambers, counters, AEG magnet	QMC-RHEL-DNPL-Liverpool Coll.: Kalmus, Gibson, Eisenhandler, Hojvat, Williams, Lee Chi Kwong, Usher, Pritchard; Astbury, Jones, Arnison, Parsons; Kemp, Woulds, Range, Harrison	5.11.69 23.10.70 12.10.71 1. 3.72	30. 6.72	5 (T) 6 6 3	Analysis
S 93 ✓	b_{19}	Short neutral beam derived from e_9 with a vertical septum	$\Phi^{\pm}$ measurement by time dependence of $K^0 \rightarrow \pi^+\pi^-$ and of the charge asymmetry in leptonic decay. Charpak chambers, wide gap magnet, large H_2 Čerenkov	CERN-Heidelberg Collaboration: Eisele, Filthuth, Geweniger, Gjesdal, Luth, Kamae, Kleinknecht, Presser, Steffen, Steinberger, Vannucci, Wahl	4. 6.69 28.10.70 4. 6.71 12.10.71 2. 2.72 30. 8.72	End Oct. 1972	6 11 8 3	Partly published

(T) = Test

Table 1E (cont'd)

Expt. Code	Beam		Description of Experiment	Authors	Date of Approval/Completion		Total weeks	Status
	Code	Description						
S109	k_{12a}	Low-energy K meson beam with energy loss separation derived from slow ejected beam e_9	Precise measurement of the $K_{e2}/K_{\mu 2}$ branching ratio. Charpak chambers, scintillators, gas Čerenkov counter, magnet, Y-detectors, PDP 9 computer	CERN-Heidelberg Collaboration: Heard, Heinzelmann, Heintze, Igo-Kemenes, Kalbreier, Mittag, Rieseberg, Schürlein, Siebert, Soergel, Streit, Wagner, Walenta	23. 9.70 12. 4.72	1. 6.72	2 (T) 8 1	Preliminary results presented at Batavia
P8	k_{12a}	Low-energy K meson beam with energy loss separation derived from slow ejected beam e_9	Measurement of the $\pi^{\pm}$ spectra following the K^- capture at rest by various nuclei	CERN-Heidelberg-Warsaw Coll.: Faessler, Lynen, Povh, Ritter, Soergel	3. 3.71 4. 6.71	3. 8.72	2	Preliminary results at German Phys. Soc. Feb. '73
S102	p_7	Unseparated $\pi^{\pm}, K^{\pm}, p^{\pm}$ < 12 GeV/c produced from slow ejected proton beam e_9 (Modified p_5)	K^-p charge exchange, at 8 GeV/c on polarised target in the range $0 \leq t \leq 0.8$ GeV^2, and 5 GeV/c + 8 GeV/c on hydrogen in the range $0.5 \leq t \leq 1.5$ GeV^2. Spark chambers, ETH magnet	CERN-ETH-I.C.-Saclay Collaboration: Astbury, Beusch, Borghini, Freudenreich, Fluri, Gentit, Guisan, Jafar, Le Dû, Websdale, Wetzel, Wilson, Polgar	2. 4.70 28.10.70 1.12.71 5. 7.72	14. 7.72	2 (T) 8 6 1	Analysis
S100	π_7	Separated counter beam $\pi, K, \bar{p}$; $K \leq 2.2$ GeV/c $p \leq 3$ GeV/c	Differential cross sections for K^-n elastic scattering between 1 and 2 GeV/c. Charpak chambers, neutron detector. C Magnet.	CERN-CAEN Collaboration: Bricman, Déclais, Duchon, Ferro-Luzzi, Louvelle, Patry, Perreau, Séguinot, Tripp, Ypsilantis	5.11.69 28.10.70 12. 4.72	End October	4 (T) 8 9	Analysis

(T)= Test

BUBBLE CHAMBER EXPERIMENTS:
NPRC APPROVALS AND EXPOSURES MADE IN THE PERIOD 1.1.72 TO 23.2.72

Table 2A

Expt. Code	Beam and Chamber	Expt. Beam	Summary	Groups	Approved		Taken in period
					Date	kpx	kpx
T158	U_5 RF separated beam HBC 200	p, 24 GeV/c (Tgt.11-RBD)	Complete study of pp collisions with 5 events/μb statistics	Bonn-Hamburg-Munich	3.5.72	250	142
T201		π^+ 16 GeV/c	To search for narrow mesonic resonances, investigate their production mechanism and decay modes	Aachen-Bonn-CERN-Warsaw- Hdlbg-Krakow	3.5.72	400	265
T203		d 11 GeV/c	p-n interactions	Strasbourg-Tel Aviv	-	70	71
T181		π^- 11 GeV/c	Resonances	Bologna-Florence-Genova-Milan-Pavia-Oxford	3.5.72	500	380
T215		K^- 8.25 GeV/c	Diffraction dissociation, resonances	Athens-Demokritos-Vienna	3.5.72	300	160
T214		K^- 14.3 GeV/c	K^-p interactions	Ecole Polytechnique-RHEL-Saclay	3.5.72	500	393
T220		K^- 16 GeV/c	K^-p interactions	Aachen-Berlin-CERN-London-Vienna	3.5.72	400	257
T179	DBC 200	π^- 4 GeV/c	Neutral meson states	Birmingham-Durham-RHEL	4.2.70	800	320
T182		K^+ 5.65 GeV/c	K^* 1400 + Q enhancement	Oxford	4.2.70	300	200
T194		p 19 GeV/c	Pomeron and other exchanges in NN + NN π	Scandinavian Collaboration	28.10.70	150	130

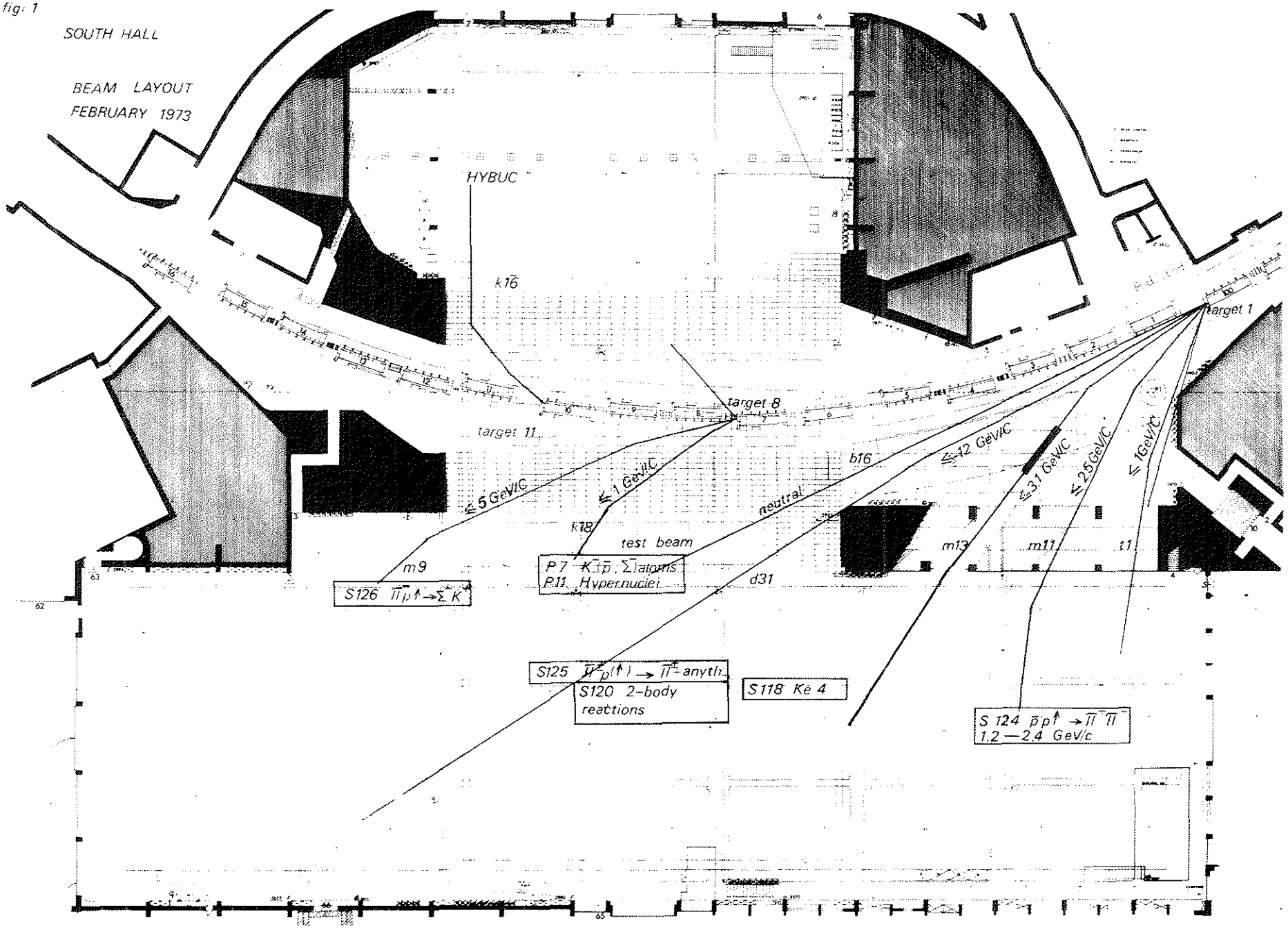
Table 2A (cont'd)

Expt. Code	Beam and Chamber	Expt. Beam	Summary	Groups	Approved		Taken in period kpx
					Date	kpx	
T208	k_8 HBC 200	π^- 1 GeV/c (K^0_L)	To measure parameters of τ and $K^0 \ell_3$ decays	RHEL-Glasgow-Pisa	8.9.71 30.8.72	300	520
T221		K^- 1.0 to 1.4 GeV/c	To study K^-p interactions	RHEL - Imperial College	30.8.72	300	352
T185	ν beam Gargamelle HLBC	ν beam from FE 74	Total cross section at high energy for $\bar{\nu}$ and ν inelastic continuum excitation of hadronic amplitude structure factors and "partons". Intermediate W bosons? Coupling constants-weak interactions. Neutral currents	Aachen-Brussels-CERN-Ec.Poly.-Milan-Orsay-Un.C. London	3.5.72	500 or 20 days	675
T189	e_8 Gargamelle propane	Scattered 19 GeV/c protons from tgt.11	Study feasibility of observing coherent events in GGM	Orsay-Uni.College London	12.4.72	1 wk.	90
T213	m_{12} Electrostatic separated beam 1.6-2.6 GeV/c $\bar{p}$. GGM, Freon, Propane	$\bar{p}$ beam from fast ejected p beam (FE74)	Study of multi-neutral channels in the annihilation of antiprotons of 1.6 GeV/c and 2.6 GeV/c in Gargamelle	Bergen-CERN-Ec.Poly Strasbourg	1.12.71	400	360
T205	k_{16} Electrostatic separated beam K^- 0.5 GeV/c. HyBUC	K^- 0.5 GeV/c	Measurement of Σ^+ magnetic moment to a precision of 5% (0.15 nuclear magnetons) using a special high field bubble chamber (HyBUC)	Copenhagen-Munich-Vanderbilt Uni.	28.10.70 11.10.72	2000	1150

Total number of exposures made in the period (kpx) (1.1.72 to 23.12.72)

HBC 200	2540
DBC 200	650
Gargamelle	1125
Hybuc	1150

fig: 1


SOUTH HALL
BEAM LAYOUT
FEBRUARY 1973
HYBUC
k16
target 1
target 8
target 11
b16
≤12 GeV/c
≤31 GeV/c
≤25 GeV/c
≤1GeV/c
≤5 GeV/c
≤1 GeV/c
neutral
k18
test beam
m9
m13
m11
t1
P7 K⁻p, Σ⁻atoms
P11 Hypernuclei
S126 π⁻p↑→Σ⁻K⁺
d31
S125 π⁻p(↑)→π⁻+anythi
S120 2-body reactions
S118 Ke 4
S 124 p̄p↑→π⁻π⁻
1.2—2.4 GeV/c

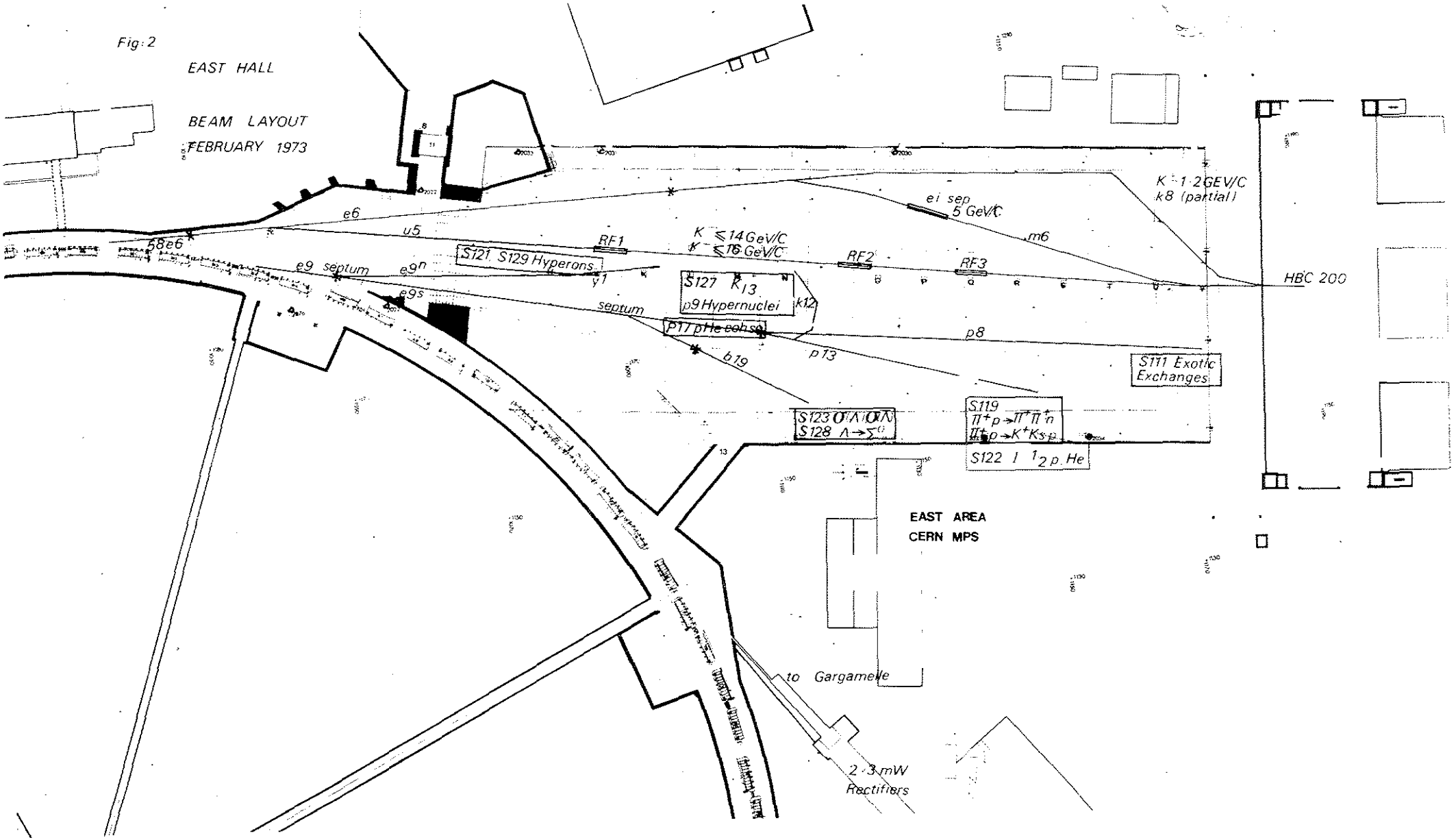


Fig: 2
EAST HALL
BEAM LAYOUT
FEBRUARY 1973
e6
u5
58e6
e9 septum
e9n
e9s
septum
S121 S129 Hyperons
RF1
K ≤14 GeV/C
K ≤16 GeV/C
y1
S127 K13
p9 Hypernuclei
k12
P17 pHe coh sc
b19
p13
RF2
RF3
ei sep
5 GeV/C
m6
K 1·2GEV/C
k8 (partial)
HBC 200
p8
S111 Exotic
Exchanges
S123 Ω⁻ Λ Ω⁻ Λ
S128 Λ→Σ⁻
S119
π⁺p→π⁺π⁺n
π⁻p→K⁺K⁻p
S122 I ½ p.He
EAST AREA
CERN MPS
to Gargamelle
2·3 mW
Rectifiers

FEBRUARY 1973

Fig 3 WEST HALL
LAYOUT