

EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

PROGRAMME OF ACCEPTED EXPERIMENTS

CERN INTERSECTING STORAGE RINGS

SEPTEMBER 1974

Table 1 : ISR Experiments running or accepted

Table 2 : ISR Experiments completed at September 1974

Figure 1 : General Layout

Figure 2 : Layout of Intersection 1 (Sept.1974) R105

Figure 3 : Layout of Intersection 1 (Dec. 1974) R107

Figure 4 : Layout of Intersection 2

Figure 5 : Layout of Intersection 4 with the S.F.M. Facility

Figure 6 : Elevation view of the S.F.M. Facility

Figure 7 : Layout of Intersection 6 (R603)

Figure 8 : Layout of Intersection 8

Figure 9 : Details of Experiment R802.

M.G. Albrow  
ISR Co-ordinator.

Table I  
ACCEPTED CERN ISR EXPERIMENTS

Area	Expt. Code	ISRC Reference Number	Description of Experiment	Composition of Group	NPRC Acceptance	Status
I-1	R-105	CERN/ISRC/72-13; Add.1-3	To measure high transverse momentum charged particles and neutral pions	CERN-Columbia-Rockefeller-Saclay Collaboration: <u>Banner</u> , <u>Blumenfeld</u> , <u>Büsser</u> , <u>Camilleri</u> , <u>Cool</u> , <u>Di Lella</u> , <u>Hamel</u> , <u>Lederman</u> , <u>Pansart</u> , <u>Pope</u> , <u>Rothenberg</u> , <u>Segler</u> , <u>Smith A.M.</u> , <u>Tannenbaum</u> , <u>Teiger</u> , <u>White</u> , <u>Zaccone</u>	NPRC 85 5.11.69	Completion September 1974
I-1	R-106	CERN/ISRC/73-19; Add.1-2 CERN/ISRC/74-11	Search for magnetic monopoles with the plastic detector technique	Bologna-CERN/Saclay-Rome Collaboration: <u>Capiluppi</u> , <u>Giacomelli</u> , <u>Rossi</u> , <u>Vannini</u> , <u>Bussière</u> , <u>Baroni</u> , <u>Diliberto</u> , <u>Petrera</u> , <u>Romano</u>	NPRC 120 5.9.73	Completion September 1974
I-1	R-107	CERN/ISRC/73-7; Add.1-2	Search for Multigamma Events	Adelphi-Brookhaven-Rome Collaboration: <u>Doohar</u> ; <u>Yuan</u> , <u>Dell</u> , <u>Uto</u> ; <u>Amaldi Ed.</u> , <u>Beneventano</u> , <u>Borgia</u> , <u>Dore</u> , <u>de Notaristefani</u> , <u>Pistilli</u> , <u>Sestili</u>	NPRC 122 14.11.73	Installation October '74
I-1	R-108	CERN/ISRC/73-13; Add.1. CERN/ISRC/74-5	Search for $e^{\pm}$ , $e^+e^-$ and multi-pion correlations with superconducting solenoid	CERN-Columbia-Oxford-Rockefeller Collaboration: <u>Camilleri</u> , <u>Di Lella</u> , <u>Pope</u> , <u>Smith A.M.</u> , <u>Stanko</u> , <u>Blumenfeld</u> , <u>Lederman</u> , <u>White S.N.</u> , <u>Segar</u> , <u>White T.O.</u> , <u>Cool</u> , <u>Rothenberg</u> , <u>Tannenbaum</u>	NPRC 127 17.4.74	Installation 1976

Table 1 (cont'd)

ACCEPTED CERN ISR EXPERIMENTS

Area	Expt. Code	ISRC Reference Number	Description of Experiment	Composition of Group	NPRC Acceptance	Status
1-2	R-205	CERN/ISRC/73-27; Add.1	Correlations associated with high transverse momentum particles	Daresbury-Liverpool-RHEL Collaboration: Alper, Aston, Booth, Carroll, Clark, Duke, Evans, Groves, Holloway, Jackson, Morris, Ott, Rock, Shah, Thresher, Wenzel, Gee	NPRC 123 5.12.73	Completion Dec.1974
1-2	R-206	CERN/ISRC/73-34	Multiplicity and Rapidity distributions of diffractive collisions	CERN-Holland-Lancaster-Manchester Collaboration: Albrow, Barber, Brooks, Bošnjakovic, Chang, Clegg, <u>Erné</u> , Kooyman, Loebinger, McCubben, Murphy, Rudge, <u>Sens</u> Sessoms, Singh, Timmer	NPRC 124 9.1.74	Completion Dec.1974
1-2	R-207	CERN/ISRC/74-20,74-24	Diffraction dissociation at small momentum transfer	CERN-Holland-Manchester Collaboration: Albrow, Armitage, Bosnjakovic, <u>Erné</u> , Kooijman, Loebinger, Montgomery, Murphy, Rudge, <u>Sens</u> , Sessoms, Singh, Strolin, Timmer	NPRC 130 17.7.1974	Installation 1975

Table 1 (cont'd)  
ACCEPTED CERN ISR EXPERIMENTS

Area	Expt. Code	ISRC Reference Number	Description of Experiment	Composition of Group	NPRC Acceptance	Status
1-4	R-401	CERN/ISRC/69-14; Add.1-5	Isobar production at ISR energies (with the forward part of the SFM detector and additional n-, trigger- and monitor counters). Special MWPC's for the compensator magnet are added	CERN-Hamburg-Orsay-Vienna Collaboration: Bartl, Brandt, Broll, Coignet, Dibon, Favier, Flügge, Gottfried, Lohrmann, Massonet, Nagy, <u>Neuhöfer</u> , Niebergall, Regler, Schmidt-Parzefall, Schubert K.R., Schuhmacher, Vivargent, Winter	NPRC 83 4.7.69	Taking data till Dec. '74
1-4	R-403T	CERN/ISRC/70-5	Split Field Magnet detector studies	S.F.M. detector group: Charpak, Drijard, Fischer, Heck, <u>Innocenti</u> , <u>Minten</u> , Piuz, Maurin	NPRC 95 3.2.71	In Production
1-4	R-406	CERN/ISRC/70-31; Add.1-3	Search for new particles (using Split Field Magnet)	CERN-Bologna Coll.: Basile, Bollini, Brunini, Cara-Romeo, Giusti, <u>Massam</u> , Monari, Palmonari, Rimondi, Valenti, Zichichi	NPRC 110 30.8.72	Reinstallation January '75
1-4	R-407 } R-408 }	CERN/ISRC/71-30; Add.1 CERN/ISRC/71-34 CERN/ISRC/73-29 CERN/ISRC/74-4	Two-particle correlations in the fragmentation region using the SFM.	CERN-Coll.de France-Heidelberg-Karlsruhe Coll.: Charpak, Drijard, Fischer H., <u>Innocenti</u> , <u>Minten</u> , Morrison, Schwille, Sotiriou, Stroynowski, Szeptycka (Warsaw), Wahl, Dellanegra, Frenkiel, Ghesquiere, Fontaine, Fröhse, Kluge, Schneider, Hanke, Isenbeck, Köbberling, Schmidt, Schopper (DESY), <u>Wegener</u> , Zeller	NPRC 110 30.8.72	Taking data

Table 1 (cont'd)

## ACCEPTED CERN ISR EXPERIMENTS

Area	Expt. Code	ISRC Reference Number	Description of Experiment	Composition of Group	NPRC Acceptance	Status
1-4	R-410	CERN/ISRC/71-37; 71-38+Add.1; CERN/ISRC/72-7; Add.1-2	Study of particle correlations at large angles	MIT-Orsay-Scandinavian Coll.: Bjggild, Burger, von Dardel, Dahl-Jensen, Mrs., Dahl-Jensen, Damgaard, De Bouard, Hansen, Jarlskog, Klovning, Lillethun, Little, Lörstad, Lu, Overgaard-Pedersen, Almehed, Sandford, Skar, Smith D., Ting, Villeneuve, Wu	NPRC 110 30.8.72	First run November 1974
1-4	R-411	CERN/ISRC/72-23	Double isobar production at the ISR to study $p + p \rightarrow (\rho\pi^+\pi^-) + (\rho\pi^+\pi^-)$	Pavia-Princeton Collaboration: Costa, Cavalli-Sforza, Coyne, Dolfiri, Goggi, Impellizzeri, Mantovani, O'Neil, Pastore, Piazzoli, Ratti, Rossini, Scannicchio	NPRC 112 1.11.72	Taking data
1-4	R-412	CERN/ISRC/72-30; Add.1-2	Study of large transverse momentum events using the S.F.M. and lead glass Čerenkov counters	Aachen-CERN Collaboration: Darriulat, Dittman, Eggert, Holder, McDonald, Modis, Navarria, Steinberger, Strauss, Williams E.G., Vesztergombi	NPRC 119 4.7.1973	First run November 1974
1-4	R-413	CERN/ISRC/72-7; Add.3-5 CERN/ISRC/74-10	Selective large $p_T$ trigger for the S.F.M.	The R410(Orsay-Scandinavian) participants and Liverpool: Booth, Carroll, Jackson	NPRC 120 5.9.1973	No time allocation yet

Table 1 (cont'd)

ACCEPTED CERN ISR EXPERIMENTS

Area	Expt. Code	ISRC Reference Number	Description of Experiment	Composition of Group	NPRC Acceptance	Status
1-6	R-603	CERN/ISRC/71-45; Add.1-2 CERN/ISRC/74-8	Inclusive measurement of multiparticle hadron systems ( $\Delta^{**}$ )	Aachen-CERN-UCLA Coll.: V. Baksay, Boehm, Foeth, Staude, Ellis, Naroska, Strclin, Lockman, Medinnis, Meyer T., Rander, Schlein, Webb	NPRC 104 2.2.72	Taking data
1-6	R-604	CERN/ISRC/74-3 CERN/ISRC/74-14	Elastic scattering at large angles	CERN-Geneva-Harvard-Munich-North-Western-Riverside Coll.: Baum, Block, De Zorzi, Crawford, Derevshchikov, Glauber, Golutvin, Hilscher, Irion, Kernan, Kukhtin, Layter, Marsh, Muller, McIntyre, Naroska, Nussbaum, Orkin-Lecourtois, Rossi, Rubbia, Sette, Schinzel, Shen, Staude, Tarnopol'sky, Voss	NPRC 126 13.3.'74	Installation expected November 1974

Table 1 (cont'd)

ACCEPTED CERN ISR EXPERIMENTS

Area	Expt. Code	ISRC Reference Number	Description of Experiment	Composition of Group	NPRC Acceptance	Status
1-8	R-801	CERN/ISRC/69-12; Add.1-6 CERN/ISRC/73-14 CERN/ISRC/74-12	Measurement of $\sigma_{tot}$ and correlations with counter hodoscopes and lead glass Cerenkov counters	Pisa-Stony Brook Coll.: Amendolia, Bellettini, Braccini, Castaldi, Cervelli, Del Prete, Foà, Jöstlein, Krachmalnicoff, Laurelli, Menzione, Owen, Ristori, Sanguinetti, Valdata, Finocchiaro, Grannis, Kephart, Thun	NPRC 83 4.7. '69	Taking data till December 1974
1-8	R-802	CERN/ISRC/71-41; Add.1-4	Particle production in the forward direction using a magnetic spectrometer, multi-wire proportional chambers and neutron counter	CERN-Rome Collaboration: Amaldi U., Allaby, Cocconi, Diddens, Dimčovski, Dobinson, Duinker, Wetherell; Thorndike; Baroncelli, Bosio, Matthiae	NPRC 107 3.5. '72	Taking data till December 1974
1-8	R-803	CERN/ISRC/73-11; Add.1-2	Study of inclusive particle production at very low $p_t$ and $X=0$	British-Scandinavian-Mit Coll.: Bøggild, Duane, Duff, Güttler, Gibson, Henning, Jarlskog, Korder, Leistam, Little, Newman, Ögren, Prentice, Sanford, Sharrock, Sau-Lan Wu	NPRC 120 5.9. '73	Taking data till December 1974
1-8	R-804	CERN/ISRC/73-28; Add.1	Study of electromagnetic properties of protons in the time-like region and search for the neutral boson $Z^0$ . (Muon pair production)	Genova-Harvard-MIT-Pisa Collaboration: Diambri-Palazzi, Becker, Biggs, Cook, Everhart, Gölchagen, Little, Strauch, Ting, Bellettini, Braccini, Castaldi, Cerasini, Del Prete, Laurelli, Sanguinetti, Valdata	NPRC 123 5.12. '73	Tests in 1975 Full installation 1976
1-8	R-805	CERN/ISRC/74-17	Real to Imaginary ratio of forward scattering amplitude (Coulomb Interference)	CERN-Rome Coll.: Amaldi U., Baroncelli, Bosio, Cocconi, Diddens, Dimčovski, Dobinson, Dorenbosch, Duinker, Matthiae, Thorndike, Wetherell	NPRC 130 17.7.1974	Installation Jan. 1975

Table 1 (cont'd)

ACCEPTED CERN ISR EXPERIMENTS

Area	Expt. Code	ISRC Reference Number	Description of Experiment	Composition of Group	NPRC Acceptance	Status
1-8	R-806T	CERN/ISRC/73-33 CERN/ISRC/74-21 CERN/ISRC/74-28	Study of large transverse momentum phenomena with transition radiation and calorimeters	Brookhaven-CERN-Saclay-Syracuse-Yale Coll.: Murtagh, Palmer, Rahm, Fabjan, Willis, Struczinski, Banner, Pansart, Smadja, Teiger, Zaccone, Zylberstein, Feinberg, Goldberg, Horowitz, Linscott, Moneti, Kourkoumelis, Lankford, Marx, Rehak	NPRC 130 17.7.74	Limited Installation in Jan. 1975



Table 2

ISR EXPERIMENTS COMPLETED SEPT: 1974

Area	Expt. Code	Description of Experiment	Authors	Completion of Data-taking	Status
1-1	R-101	Emulsion exposures giving angular distribution of charged and stopping particles between $35^{\circ}$ and $90^{\circ}$	CERN-Cracow-Bucharest-Tata Emulsion Collaboration: Annoni, Cordaillet, Czyzewski, Friedländer, Gierula, Gurtu, Haiduc, Herz, Marin, Vicky, Wolter	September 1971	Published
1-1	R-102	a) Study of interactions in which $\gamma$ rays and electrons with large transverse momentum are emitted. b) Search for "Quarks" at large angles	Saclay-Strasbourg Collaboration: Banner, Cheze, Hamel, Stirling, Teiger, Zaccane, Pansart; Bassompierre, Croissiau, Gresser, Morand, Schneegans, Riedinger	April 1972	Published
1-1	R-103	Search for massive dileptons	CERN-Columbia-Rockefeller Collaboration: Büsser, Camilleri, Di Lella, Placchi, Pope, Smith A., Yoh, Zavattini; Blumenfeld, Lederman; Cool, Litt L., Segler	December 1972	Published
1-1	R-104T	An exploratory experiment on the search for multigamma events	Brookhaven-Grumman-Rome Collaboration: Yuan, Utc, Dell, Doohar, Amaldi Ed., Beneventano, Borgia, Pistilli	December 1972	Published
1-2	R-201	Particle production at small angles	CERN-Holland-Lancaster-Manchester Collaboration: Albrow, Barber, Brocks, Bogaerts, Bosnjakovic, Chang, Clegg, Erné, Kocyman, Loebinger, McCubben, Murphy, Rudge, Sens, Sessoms, Timmer	March 1974	Published

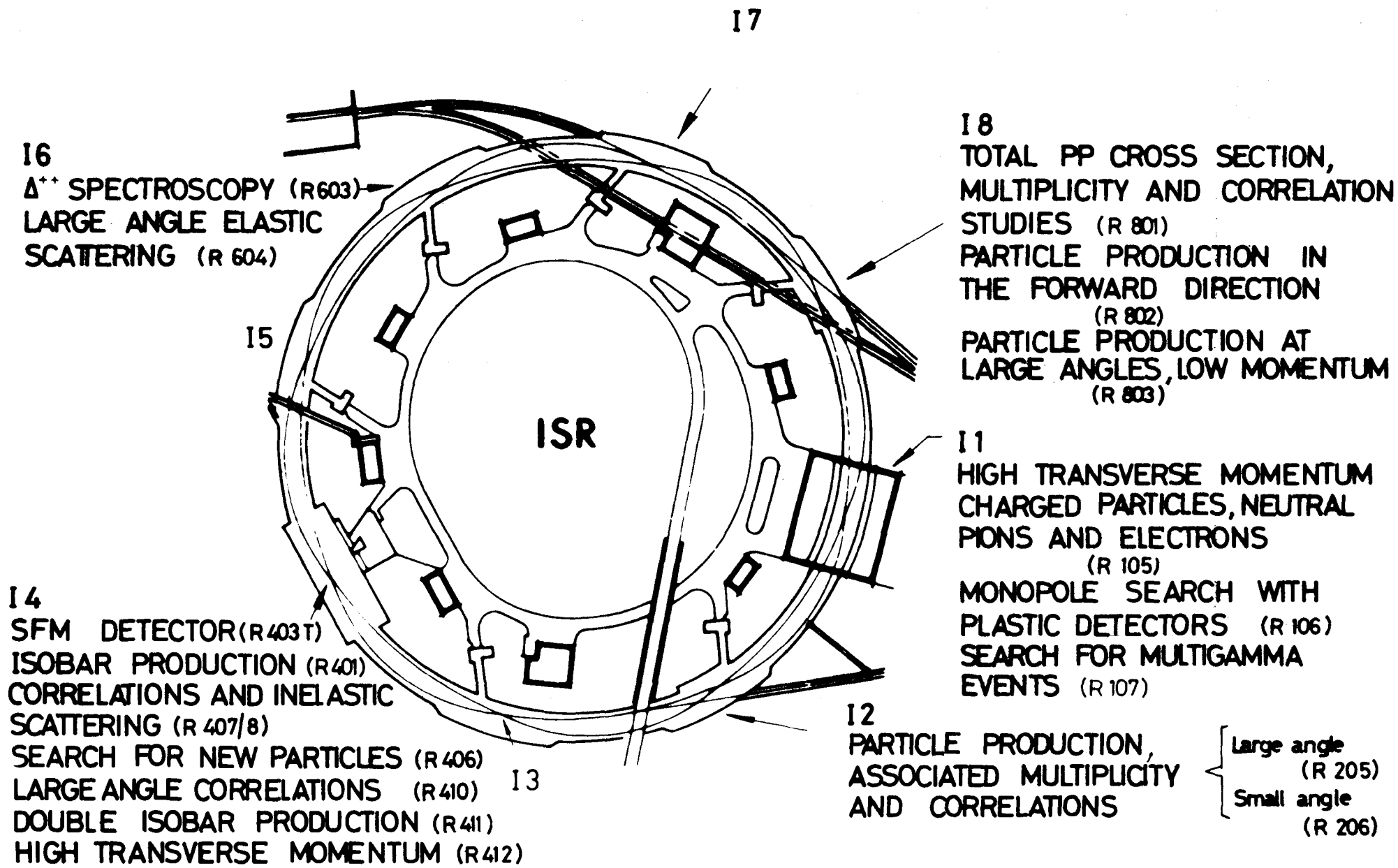
Table 2 (cont'd)

ISR EXPERIMENTS COMPLETED SEPT. 1974

Area	Expt. Code	Description of Experiment	Authors	Completion of Data-taking	Status
1-2	R-202	Study of positive and negative particle production in high energy proton-proton collisions at intermediate angles	Argonne-Bologna-Michigan Collaboration: Antinucci, Babcock, Bertin, Bussièrè, Cappeluppi, D'Agostino-Bruno, Ellis, Giacomelli, Krisch, Maroni, Ratner, Roberts, Rossi, Vannini	September 1971 (Positive particles) May 1973 (Negative particles)	Published
1-2	R-203	Inclusive production of high momentum particles in proton-proton collisions at large angles	The British Universities (R-204) and the Scandinavian Coll.: Alper, Bøggild, Booth, Carroll, Damgaard, Von Dardel, Groves, Jackson, Jarlskog, Klovning, Leistam, Lillethun, Ølgaard-Nielsen, Prentice, Quarrie, Weiss	December 1973	Published,
1-2	R-204	Measurement of muons with large transverse momentum as a search for the intermediate vector boson	The British Universities: Jeffs, Leechikwong, Lintern, Pitts, Sharp, Sharrock, Gibson, Manning, Smith W.	December 1973	Published, Analysis
1-4	R-402	Search for fractionally charged particles	CERN-Munich Coll.: Caldwell, Fabjan, Gruhn, Hyams, Sauli, Zahniser, Bott-Bodenhausen, Stierlin, Rochester, Winstein, Tirlor	August 1972	Published
1-4	R-404T	Test to search for heavy baryon isomers	CERN-Hamburg-Vienna Collaboration: Dibon, Flüge, Gottfried, Nefkens, Neuhofer, Niebergall, Regler, Schmidt-Parzefall, Schubert, Schuracher, Winter	May 1973	Published
1-4	R-405	Neutron production at small angles	CERN-Karlsruhe Collaboration: Engler, Flauger, Gibbard, Monnig, Schopper, Bartel, Schmidt	October 1972	Published

Table 2 (cont'd)  
ISR EXPERIMENTS COMPLETED SEPT. 1974

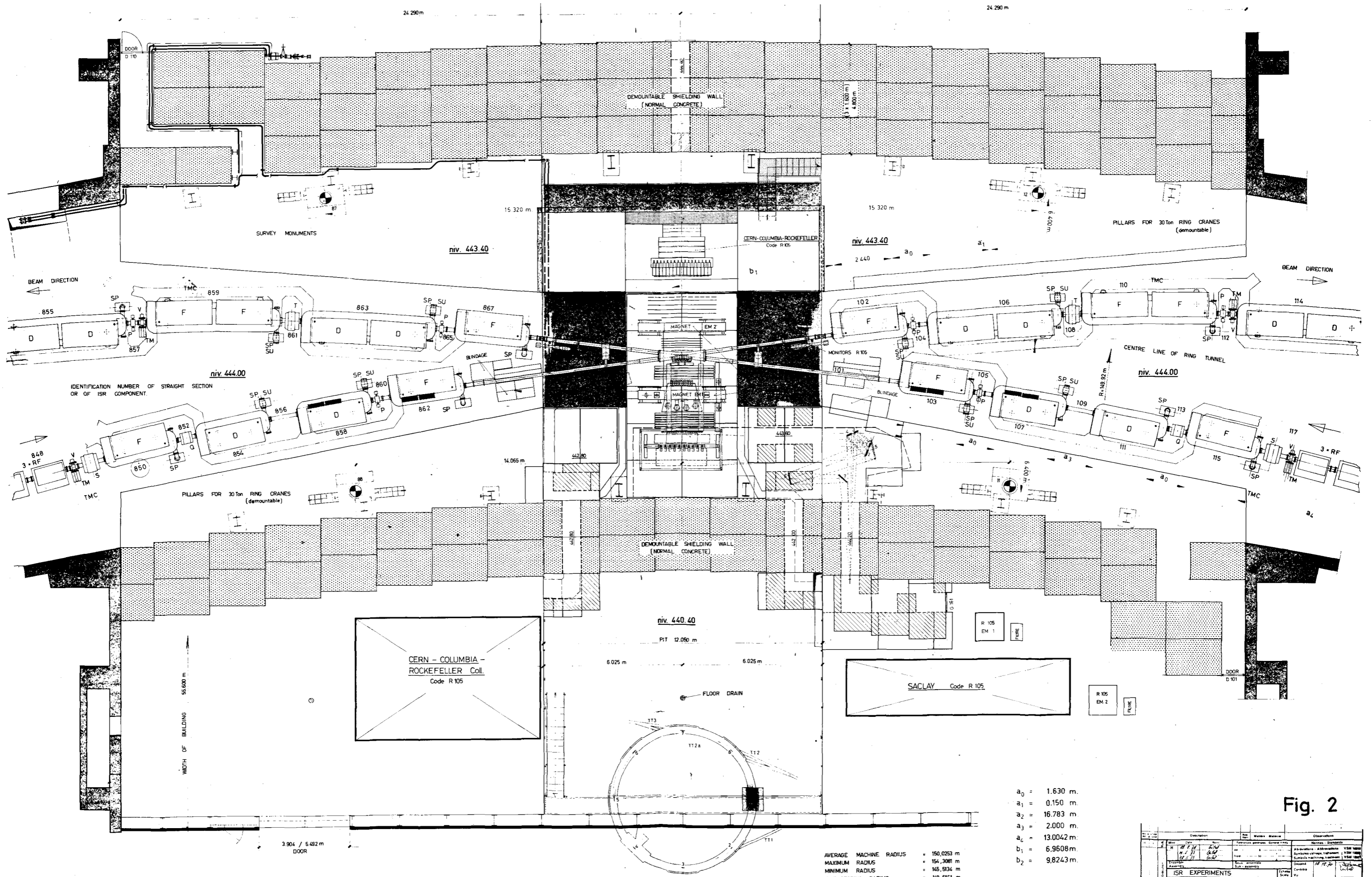
Area	Expt. Code	Description of Experiment	Authors	Completion of Data-taking	Status
1-6	R-601	p-p small angle scattering and total cross section	CERN-Rome Collaboration: Allaby, Amaldi, Bartel, Biancastelli, Bosio, Cocconi, Diddens, Dobinson, Matthiae, Wetherell	December 1972	Published
1-6	R-602 Phase I.	Measurement of the elastic scattering cross section beyond the Coulomb interference region. Search for "Quarks" at small angles	CERN-Aachen-Univ. Calif.-Genova-Harvard-Torino Collaboration: Baksay, Boehm, Bozzo, Di Zorzi, Ellis, Ferrero, Foeth, Maderni, Meyer, Naroska, Pilcher, Rubbia, Schlein, Sette, Staude, Stroclin, Sulak, Trippe, Webb	Phase I. Aug. 1973	Published
1-6	R-602 Phase II	Measurement of elastic scattering cross section and $\sigma_T$	CERN-Aachen-Genova-Harvard-Munich-North Western-Riverside Coll.: Baum, Böhm, De Zorzi, Ellis, Foeth, Hilscher, Kernan, Layter, Müller F., Naroska, Rubbia, Schinzel, Sette, Staude, Stroclin, Telegdi, Trilling, VonBaksay	July 1974	Analysis
1-7	R-701	Observation of p-p collisions with streamer chambers, with inclusive trigger and with high transverse momentum $\pi^0$ trigger	CERN-Aachen-Heidelberg-Munich Coll.: Albrecht, Darriulat, Derado, Dittman, Eckardt, Eggert, Gebauer, Holder, McDonald, Meinke, Modis, Pugh, Sanders, Schmitz, Schneider, Seyboth, Thomé, Tittel	August 1974	Analysis



ISR EXPERIMENTS

SEPTEMBER 1974

Fig. 1



- $a_0 = 1.630 \text{ m.}$
- $a_1 = 0.150 \text{ m.}$
- $a_2 = 16.783 \text{ m.}$
- $a_3 = 2.000 \text{ m.}$
- $a_4 = 13.0042 \text{ m.}$
- $b_1 = 6.9608 \text{ m.}$
- $b_2 = 9.8243 \text{ m.}$

- AVERAGE MACHINE RADIUS = 150,0253 m
- MAXIMUM RADIUS = 154,3081 m
- MINIMUM RADIUS = 145,5134 m
- INTERSECTING RADIUS = 148,5151 m

Fig. 2

No.	Date	Description	By	Checked	Approved	Observations
1	1971.11.15	Construction of the ISR	...	...	...	...
2	1972.05.21	...	...	...	...	...
3	1972.05.21	...	...	...	...	...
<b>ISR EXPERIMENTS</b>						
<b>INTERSECTION 1</b>						
ORGANISATION EUROPEENNE POUR LA RECHERCHE NUCLEAIRE EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH <b>CERN</b> CH-1211 GENEVE 23 DIVISION ISR						
						260-247

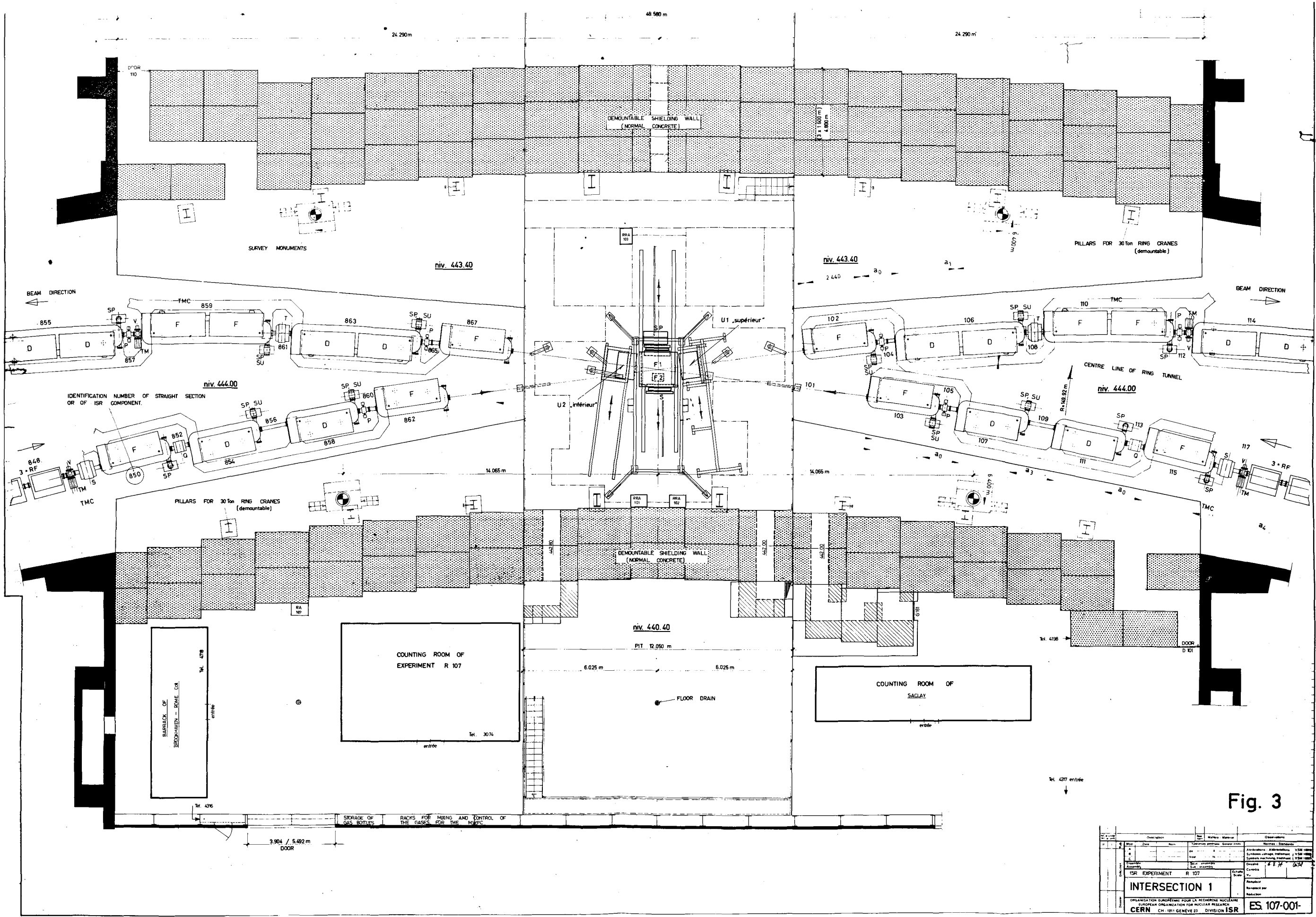
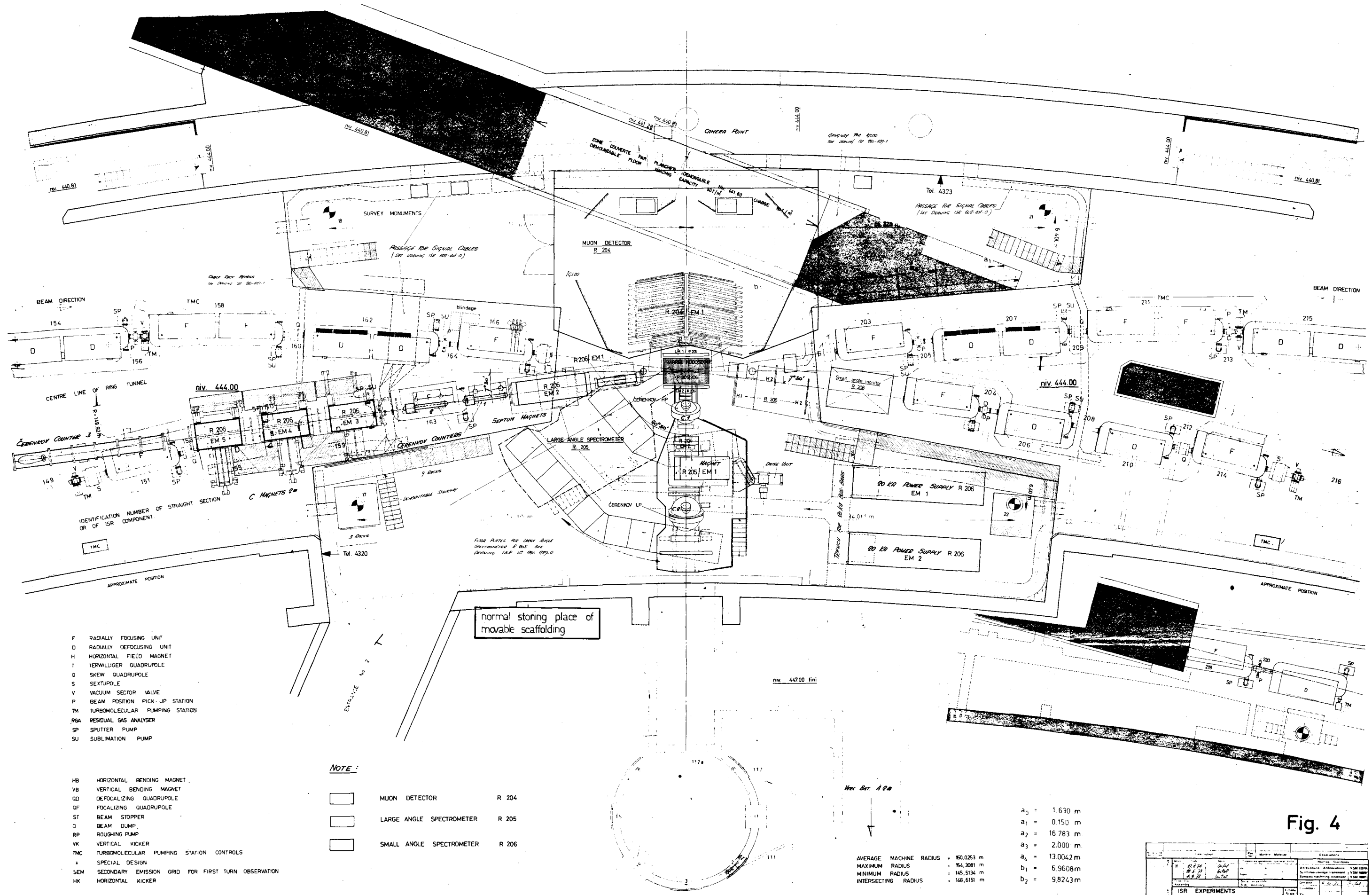


Fig. 3

Designation	Material	Quantity	Remarks
ISR EXPERIMENT R 107			
<b>INTERSECTION 1</b>			
ORGANISATION SUPPLEMENTAIRE POUR LA RECHERCHE NUCLEAIRE EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH CERN - CH-1211 GENEVE 23 - DIVISION ISR			
			ES. 107-001-

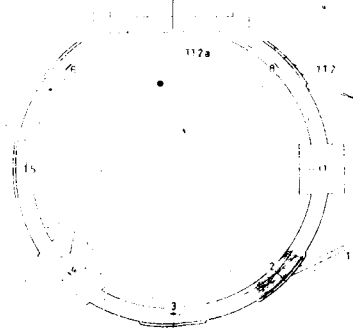


- F RADIALLY FOCUSING UNIT
- D RADIALLY DEFOCUSING UNIT
- H HORIZONTAL FIELD MAGNET
- T TERWILLIGER QUADRUPOLE
- Q SKEW QUADRUPOLE
- S SEXTUPOLE
- V VACUUM SECTOR VALVE
- P BEAM POSITION PICK-UP STATION
- TM TURBOMOLECULAR PUMPING STATION
- RGA RESIDUAL GAS ANALYSER
- SP SPUTTER PUMP
- SU SUBLIMATION PUMP

- HB HORIZONTAL BENDING MAGNET
- VB VERTICAL BENDING MAGNET
- QD DEFOCALIZING QUADRUPOLE
- QF FOCALIZING QUADRUPOLE
- ST BEAM STOPPER
- D BEAM DUMP
- RP ROUGHING PUMP
- VK VERTICAL KICKER
- TMC TURBOMOLECULAR PUMPING STATION CONTROLS
- X SPECIAL DESIGN
- SEM SECONDARY EMISSION GRID FOR FIRST TURN OBSERVATION
- HK HORIZONTAL KICKER

- NOTE :**
- MUON DETECTOR R 204
  - LARGE ANGLE SPECTROMETER R 205
  - SMALL ANGLE SPECTROMETER R 206

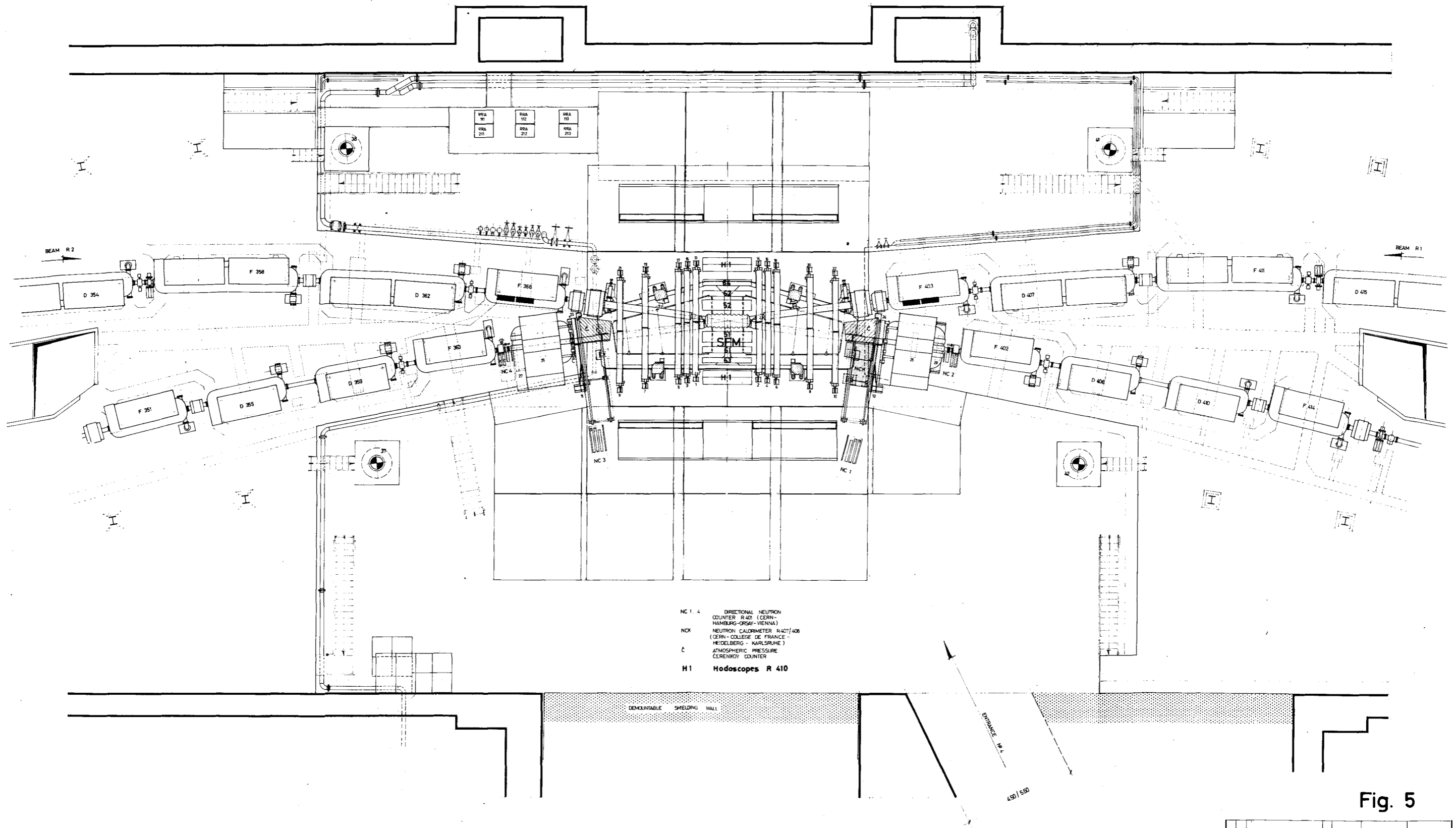
normal storing place of movable scaffolding



- Max. Bot. A 0 a
- $a_0 = 1.630 \text{ m}$
  - $a_1 = 0.150 \text{ m}$
  - $a_2 = 16.783 \text{ m}$
  - $a_3 = 2.000 \text{ m}$
  - $a_4 = 13.0042 \text{ m}$
  - $b_1 = 6.9608 \text{ m}$
  - $b_2 = 9.8243 \text{ m}$
- AVERAGE MACHINE RADIUS = 150,0253 m  
 MAXIMUM RADIUS = 154,3081 m  
 MINIMUM RADIUS = 145,5134 m  
 INTERSECTING RADIUS = 148,6151 m

Fig. 4

ISR EXPERIMENTS		INTERSECTION 2	
ORGANISATION EUROPEENNE POUR LA RECHERCHE NUCLEAIRE EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH CERN - CH-1211 GENEVE 23 - DIVISION ISR			
260-217-			



NC 1, 4 DIRECTIONAL NEUTRON  
COUNTER R 401 (CERN-  
HAMBURG-ORSAY-VIENNA)  
NCK NEUTRON CALORIMETER R 407/408  
(CERN-COLLEGE DE FRANCE-  
HEIDELBERG-KARLSRUHE)  
C ATMOSPHERIC PRESSURE  
CERENKOV COUNTER  
H1 Hodoscopes R 410

DEMOUNTABLE SHIELDING WALL

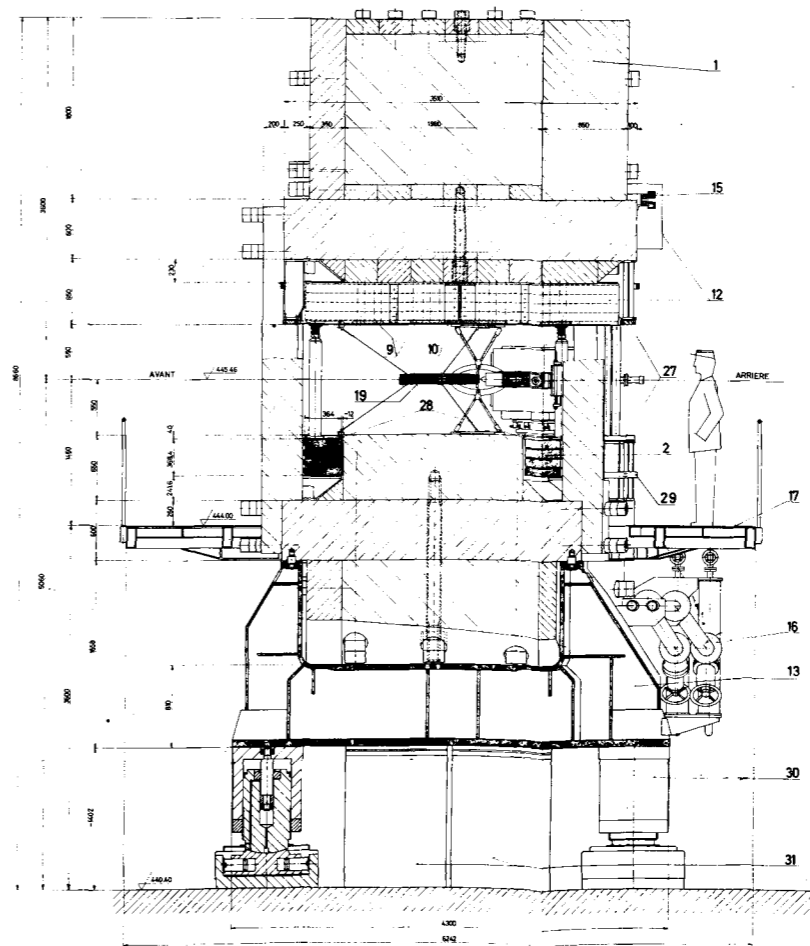
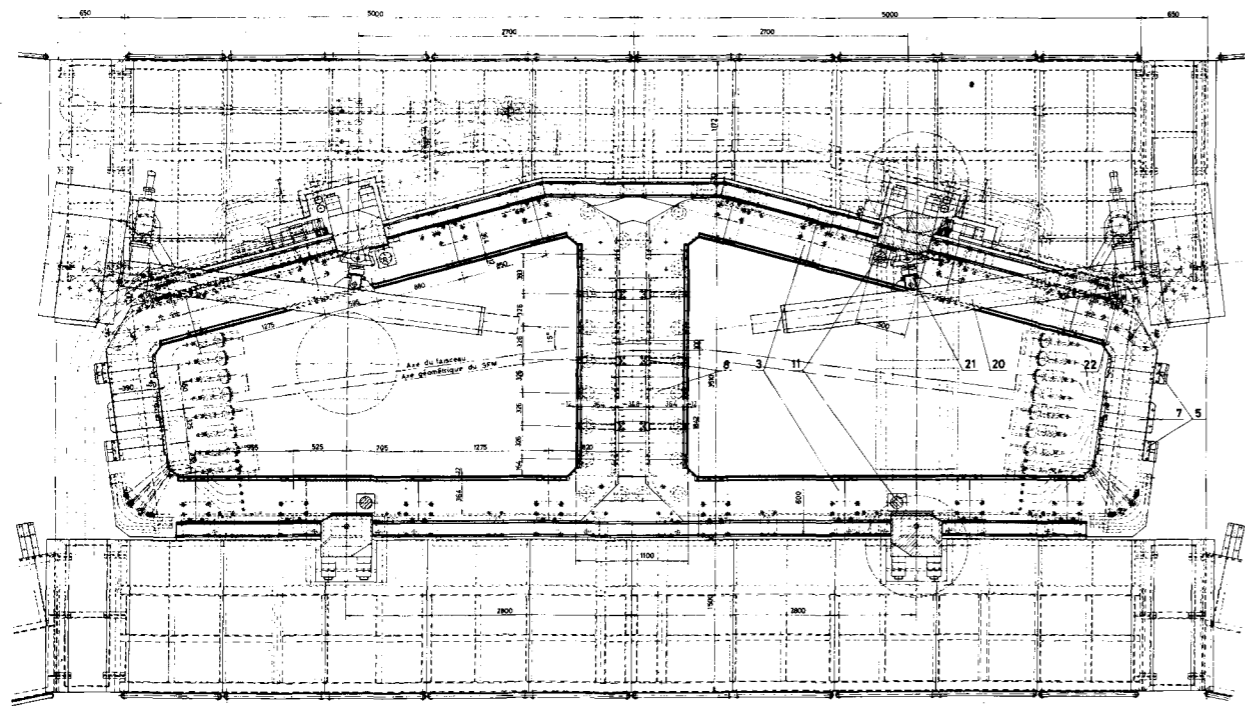
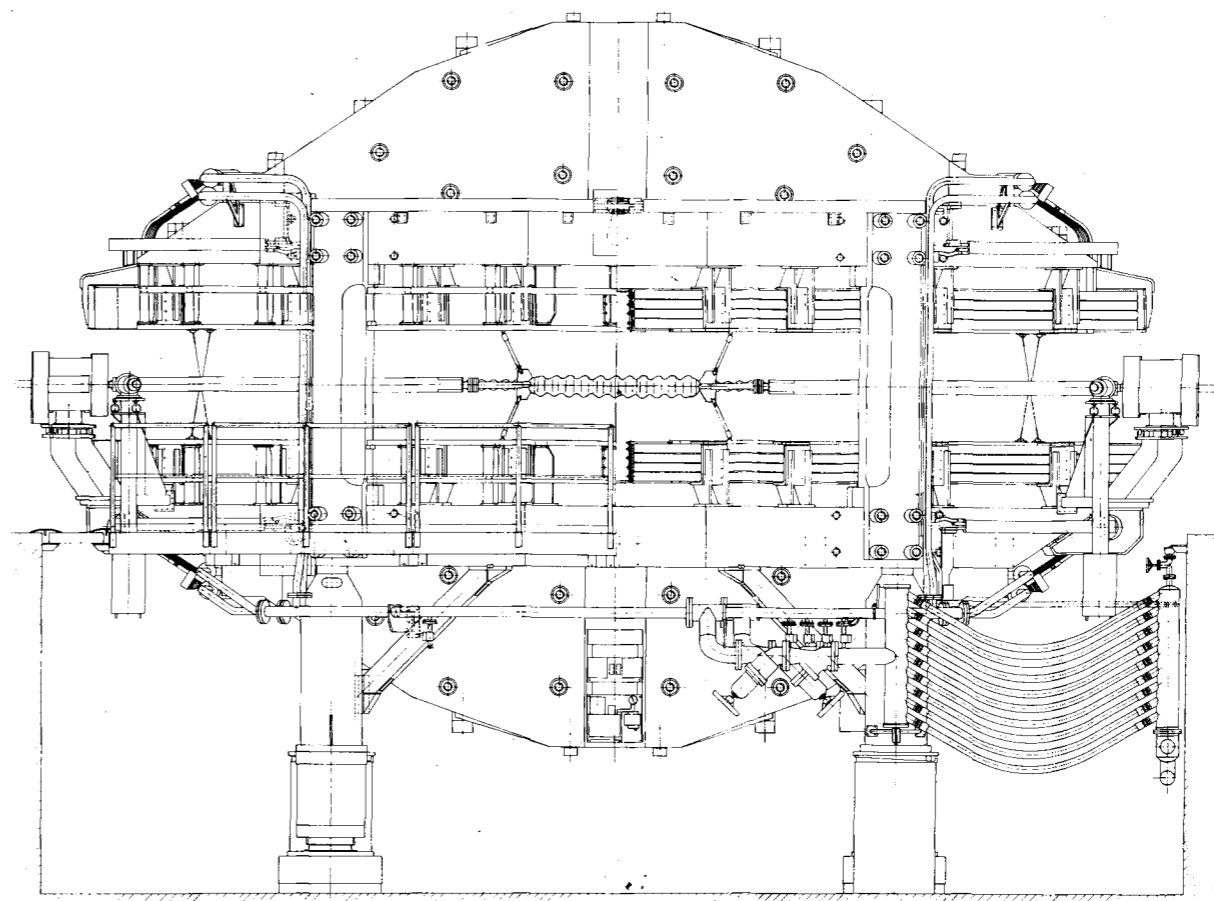
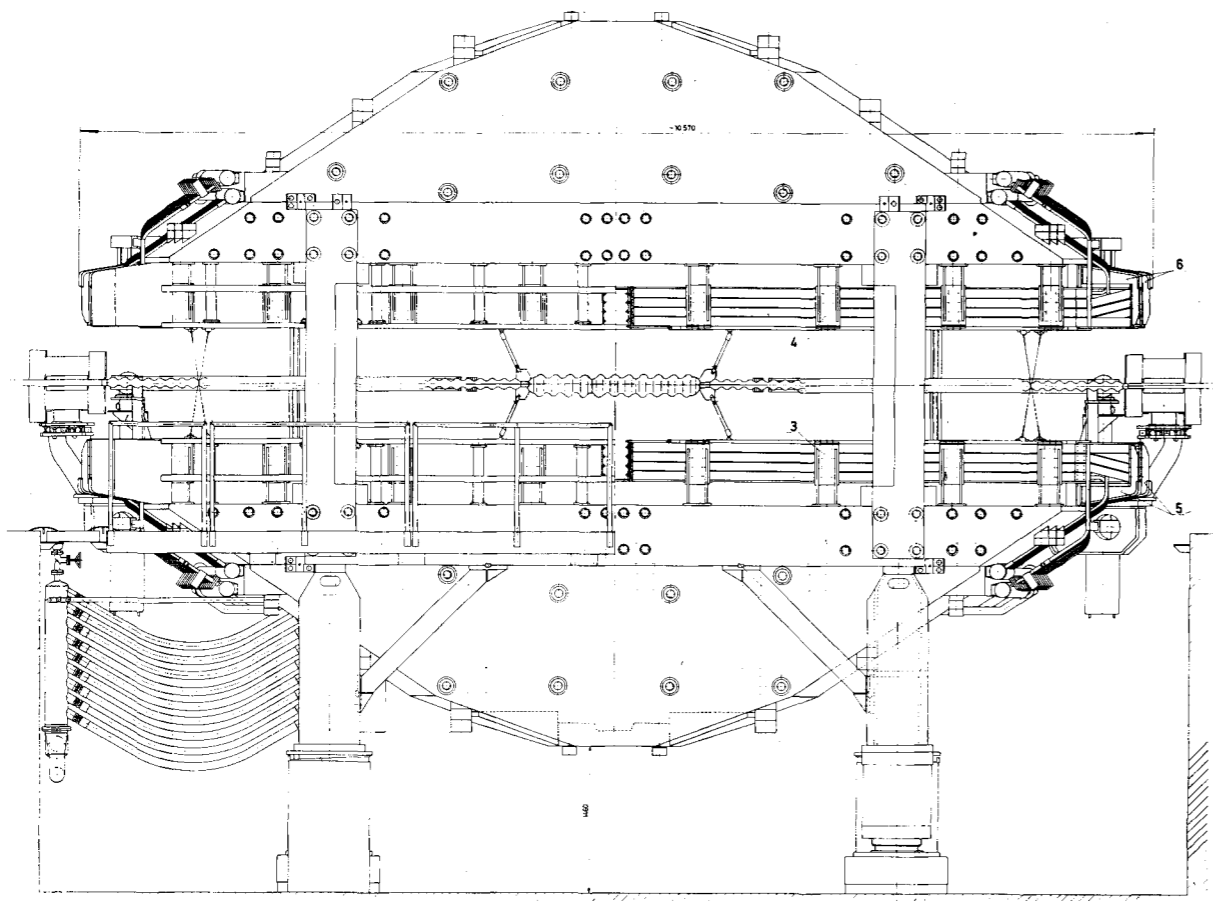
DISTANCE 40 A  
450 / 550

SFM DETAILS VOIR PLAN CERN ISR 271-104-0<sup>o</sup>

Fig. 5

Fig. No.	Description	Scale	Material	Notes	Remarks
4	INTERSECTION	1:1	Steel		
<p>ORGANISATION EUROPEENNE POUR LA RECHERCHE NUCLEAIRE EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH CERN LAB 1 - CH-1211 GENEVE 23</p>					





Ensemble	
Designation	Quantité
1	1
2	1
3	1
4	1
5	1
6	1
7	1
8	1
9	1
10	1
11	1
12	1
13	1
14	1
15	1
16	1
17	1
18	1
19	1
20	1
21	1
22	1
23	1
24	1
25	1
26	1
27	1
28	1
29	1
30	1
31	1

Fig. 6



IDENTIFICATION NUMBER OF STRAIGHT SECTION OF OR OF ISR COMPONENT

niv 445.55 fin

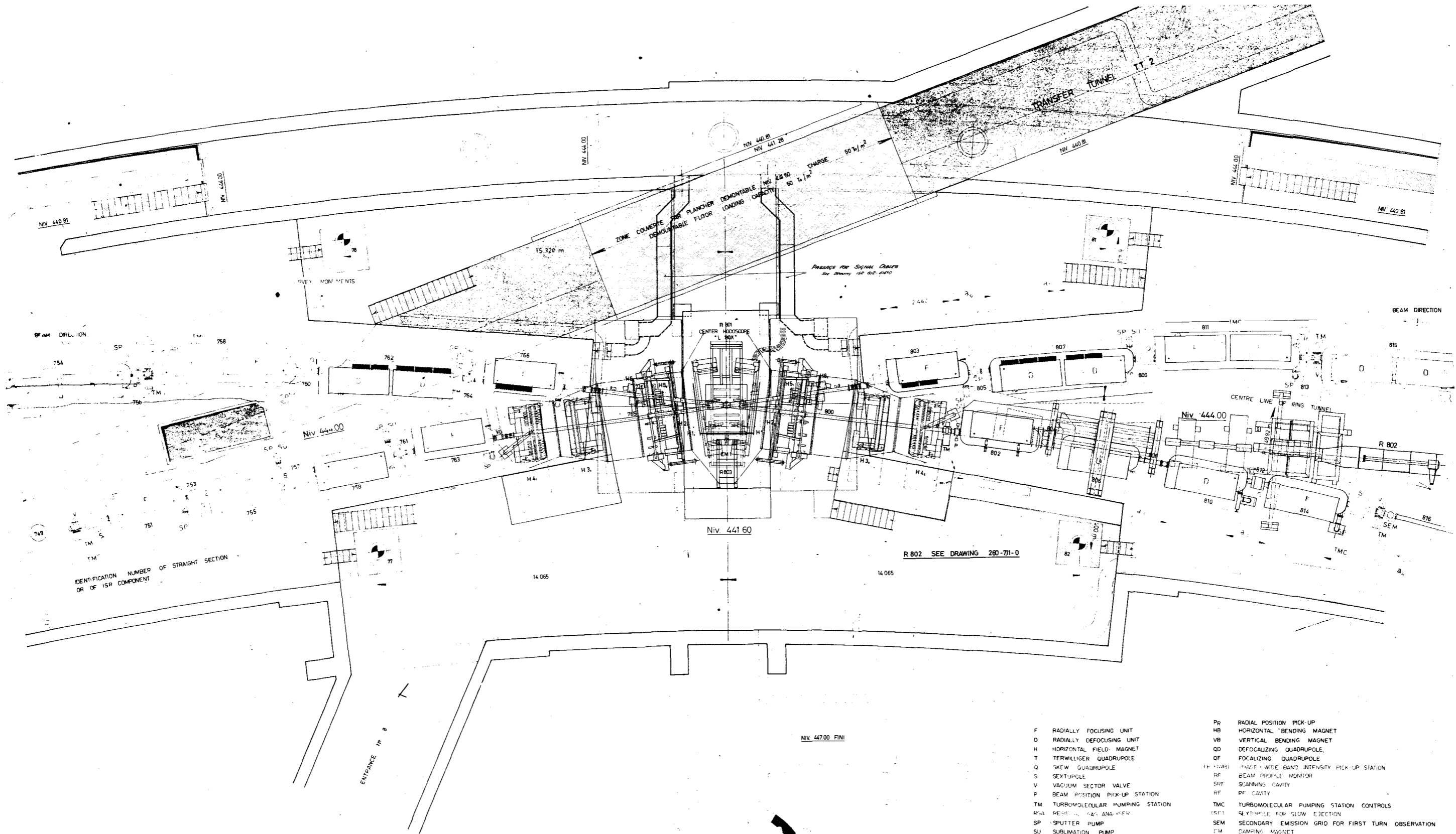
- F Radially focussing unit
- D Radially defocussing unit
- H Horizontal field magnet
- T Terwilliger quadrupole
- Q Skew quadrupole
- S Sextupole
- V Vacuum sector valve
- P Beam position pick-up station
- TM Turbomolecular pumping station controls
- C Cryopump
- SP Sputter pump
- SU Sublimation pump
- HB Horizontal bending magnet
- VB Vertical bending magnet
- QD Defocussing quadrupole
- QF Focussing quadrupole
- ST Beam stopper
- D Beam dump
- G Getter pump
- VK Vertical kicker
- TMC Turbomolecular pumping station controls
- x Special design
- SEM Secondary emission grid for first turn observation
- HK Horizontal kicker

Average machine radius = 50,023 m  
 Maximum radius = 54,308 m  
 Minimum radius = 46,513 m  
 Intersecting radius = 48,815 m

$a_0 = 1.630$  m  
 $a_1 = 0.150$  m  
 $a_2 = 16.783$  m  
 $a_3 = 2.000$  m  
 $a_4 = 13.0042$  m  
 $b_1 = 6.9608$  m  
 $b_2 = 9.8243$  m

Fig. 7

ISR EXPERIMENTS		INTERSECTION 6	
OPERATION SUPERVISOR		DATE	
CERN		ES 000000	



BEAM DIRECTION

BEAM DIRECTION

IDENTIFICATION NUMBER OF STRAIGHT SECTION OR OF ISR COMPONENT

R 802 SEE DRAWING 280-711-0

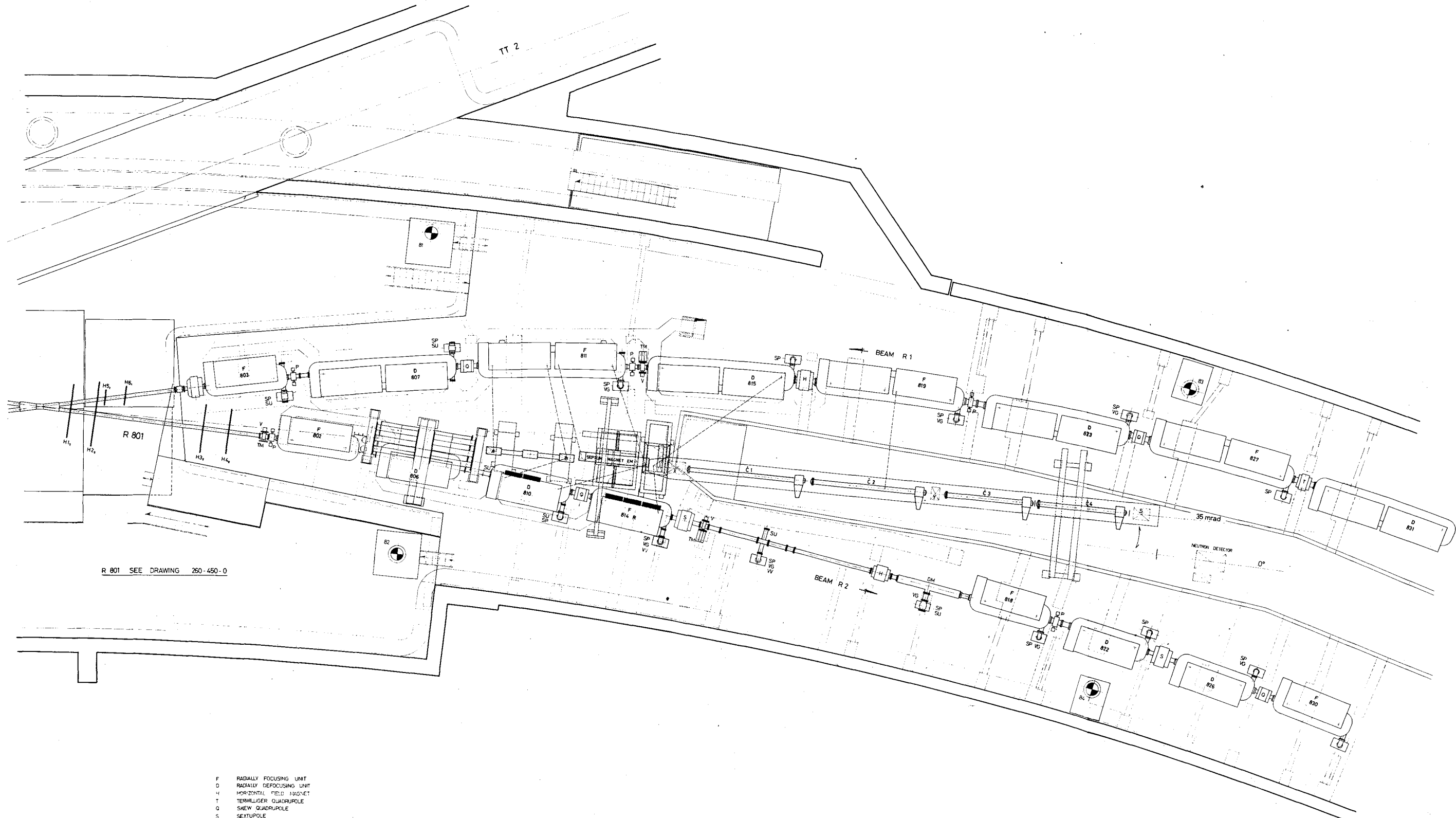
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- F RADIALLY FOCUSING UNIT
- D RADIALLY DEFOCUSING UNIT
- H HORIZONTAL FIELD MAGNET
- T TERWILLIGER QUADRUPOLE
- Q SKEW QUADRUPOLE
- S SEXTUPOLE
- V VACUUM SECTOR VALVE
- P BEAM POSITION PICK-UP STATION
- TM TURBOMOLECULAR PUMPING STATION
- RPA RESISTANCE ANALYSER
- SP SPUTTER PUMP
- SU SUBLIMATION PUMP
- DE SPECIAL QUADRUPOLE FOR SLOW INTEGRAL EJECTION
- VG VACUUM GAUGE
- Pr RADIAL POSITION PICK-UP
- HB HORIZONTAL BENDING MAGNET
- VB VERTICAL BENDING MAGNET
- QD DEFOCUSING QUADRUPOLE
- QF FOCUSING QUADRUPOLE
- IP (W) PHASE-WIDE BAND INTENSITY PICK-UP STATION
- BP BEAM PROFILE MONITOR
- SRF SCANNING CAVITY
- RF RF CAVITY
- TMC TURBOMOLECULAR PUMPING STATION CONTROLS
- SP (S) SEXTUPOLE FOR SLOW EJECTION
- SEM SECONDARY EMISSION GRID FOR FIRST TURN OBSERVATION
- DM DAMPING MAGNET
- PS SECONDARY EMISSION PROBE SCANNER
- SP SMALL SPUTTER PUMP

$d_1$	1.530 m
$a_1$	0.150 m
$d_2$	16.783 m
$a_2$	2.000 m
$a_3$	13.064 m
$b_1$	6.3608 m
$b_2$	9.8243 m
AVERAGE MACHINE RADIUS	= 150.0253 m
MAXIMUM RADIUS	= 154.3081 m
MINIMUM RADIUS	= 145.5136 m
INTERSECTING RADIUS	= 148.5151 m

Fig. 8

ISR EXPERIMENTS	
INTERSECTION 8	
CERN	260-450



R 801 SEE DRAWING 260-450-0

- F RADIALY FOCUSING UNIT
- D RADIALY DEFOCUSING UNIT
- H HORIZONTAL FIELD MAGNET
- T TERMILIGER QUADRUPOLE
- Q SKEW QUADRUPOLE
- S SEXTUPOLE
- V VACUUM SECTOR VALVE
- P BEAM POSITION PICK UP
- TM TURBOMOLECULAIRE PUMP
- SP SPLUTTER PUMP
- SU SUBLIMATION PUMP
- VS VACUUM GAUGE
- VV VENTING VALVE
- DM RADIALY DEFOCUSING UNIT WITH MOTORISED JACKS

Fig. 9

No. & title		Description		Material		Order no./no. of drawings		M.P. (M.P. no./no. of drawings)	
#	1	2	3	4	5	6	7	8	9
1	260-711-0	Layout in I 8							
2	260-711-1								
3	260-711-2								
4	260-711-3								
5	260-711-4								
6	260-711-5								
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