

Table 1

EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

PROGRAMME OF ACCEPTED EXPERIMENTS

CERN INTERSECTING STORAGE RINGS

December 1970

J.C. Sens
ISR Co-ordinator

ACCEPTED CERN ISR EXPERIMENTS

Area	Expt. Code	Reference Number	Description of Experiment	Present composition of group	Date of NPRC Acceptance	Status
I-1	R101	CERN/ISR/69-6, and Add.1,2,3 CERN/ISR/69-37, and Add. 1 CERN/ISR/69-41 CERN/ISR/69-50, and Add.1	Angular and momentum distribution of secondaries with nuclear emulsions	CERN-Cracow-Bucharest-Tata emulsion collaboration: <u>Herz</u> , Cordailat, Friedländer, Marin, Vicky, Haiduc, Gierula, Annoni	NPRC 85, 5.11.1969	
I-1	R102	CERN/ISR/69-11/Rev. and Add. 1, 2, 3	Study of interactions in which gamma rays and electrons with large transverse momentum are emitted	Saclay-Strasbourg collaboration: Cheze, Hamel, <u>Stirling</u> , Teiger, Thevenet, Zaccone, <u>Zsembery</u> ; Chatlus, Croissiaux, Morand, Pahin	NPRC 85 5.11.1969	
I-1	R103	CERN/ISR/69-43, and Add.1	Search for Massive Dileptons	CERN-Columbia-Rockefeller Collaboration: <u>Di Lella</u> , Placci, Pope, Smith, <u>Zavattini</u> ; Lederman, Blumenfeld, Cool, Segler	NPRC 85 5.11.1969	

ACCEPTED CERN ISR EXPERIMENTS

Area	Expt. Code	Reference Number	Description of Experiment	Present composition of group	Date of NPRC Acceptance	Status
1-2	R201	CERN/ISRC/69-5, and Add.1, 2 CERN/ISRC/69-9	Production of stable particles at small angles	CERN-Holland-Lancaster-Manchester Collaboration: Albrow, Barber, Bogaerts, Bošnjaković, Clegg, Erné, Kanaris, Locke, Murphy, <u>Sens</u>	NPRC 83 4.7.1969	
1-2	R202	CERN/ISRC/69-7, and Add.1	Study of particle production in high energy proton-proton collisions at medium angles	Argonne-Bologna-Michigan Collaboration: Ratner; Ellis, Giacomelli; Babcock, <u>Krisch</u> , Roberts, Maroni, Vannini	NPRC 83 4.7.1969	
1-2	R203	CERN/ISRC/69-48	Experiment to determine <u>low-energy</u> production spectra of π^+ , K^+ , p , d ,... etc. at large angles	The collaboration mentioned below and the Scandinavian Collaboration: Almehed, Carlson, Von Dardel, Gjesdal, <u>Jarlskog</u> , Klovning, Lillethun	NPRC 83 4.7.1969	
1-2	R204	CERN/ISRC/69-3	Measurement of particles with large transverse momentum as a search for the intermediate boson	British Universities Collaboration: Booth, Carrol, Gibson, Hanna, Alper, Jackson, Heyman, Malos, Manning, <u>Potter</u> , Sharp, Sharrock	NPRC 83 4.7.1969	

ACCEPTED CERN ISR EXPERIMENTS

Area	Expt. Code	Reference Number	Description of Experiment	Present composition of group	Date of NPRC Acceptance	Status
1-4	R4C1	CERN/ISR/69-14	Measurement of energy dependence of isobar excitation in proton-proton collisions	CERN-Hamburg-Orsay-Vienna Collaboration: Schmidt-Parzefall, Winter; Flügge, Niebergall, <u>Schubert</u> ; Broll, Coignet, Favier, Vivargent; Dibon, Gottfried, Oberparleiter, <u>Regler</u>	NPRC 83 4.7.1969	

ACCEPTED CERN ISR EXPERIMENTS

Area	Expt. Code	Reference Number	Description of Experiment	Present composition of group	Date of NPRC Acceptance	Status
1-6	R601	CERN/ISRC/69-20, and Add.1, 2 CERN/ISRC/70-7, and Add.2	The measurement of proton-proton differential cross section in the Coulomb interference region	CERN-Rome Collaboration: Allaby, Amaldi, Biancastelli, Bosio, Cocconi, Diddens, Dobinson, Litt, <u>Matthiae</u> , Rochester, Schlüpmann, Schneider, Stahlbrandt, <u>Strolin</u> , <u>Wetherell</u>	NPRC 83 4.7.1969	
1-6	R602	CERN/ISRC/69-19, and Add.1	Measurement of the elastic scattering cross section beyond the Coulomb interference region	CERN-Aachen-Genova-Torino Collaboration: Darriulat, Pilcher, Rubbia, <u>Strolin</u> , Tittel; Holder, Rademacher, Staude; Dianbrini, Giannini, Ottonello, Santroni, Sette; Bisi, Fainberg, Ferrero, Sciré	NPRC 83 4.7.1969	
1-6	R603	CERN/ISRC/69-12	Measurement of the p-p total cross section	Pisa-Stony Brook Collaboration: <u>Bellettini</u> , Braccini, Bradaschia, Castaldi, Cerri, Ciancaglini, Del Prete, Foà, Giromini, Menzione, Sanguinetti, Valdata, <u>Finocchiaro</u> , Good, Blieden, Grannis, Kirz	NPRC 83 4.7.1969	

v = allocated time
 T = Test
 p = either target 1 or 8 operate in parasitic mode
 R = test facilities for ISR experiments
 () = not included in allocated time

1/2 = one pulse in two
 | = end of allocated time

Table 2

PROPOSED PS DRAFT SCHEDULE FOR 1971
 (Weeks 19 onwards are most tentative)

PS/Coord/231
 14.12.1970

Date	Start / End	Nr. wks.	Code	7/1 14/1	21/1 5/2	11/2 26/2	4/3 19/3	25/3 8/4	15/4 30/4	6/5 21/5	27/5 11/6	17/6 2/7	8/7 23/7	29/7 13/8	19/8 3/9	9/9 24/9	30/9 15/10	21/10 5/11	11/11 26/11	2/12 17/12	
	Weeks			2-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	31-33	34-36	37-39	40-42	43-45	46-48	49-51	
	Flat-top energies			19.2	21	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	
Target 1	b ₁₆	6	S108	(T)	R-401		R-401		(p) R401	S108 v 1/2 v	v v v			v v		v					
	d ₃₀	2-6	S 91	(T)	T T		v v			1/2 v v v	v v v			v							
	d _{30a}	?	S104	(T)	R-201 R-202	R-201 (p) R-202	R-201 R-202		R201 (p) R202	R-201 (p) R-202				S104, Δ ⁰	No	time	allocation	yet			
	m ₇	2	S 74	(v)	v v	S100 K ⁻ n				1/2 T T T	T v			v v		v v			v		
	m _{7a}																				
	m ₁₁	6	S 99	(T)	T T		T T					v			v v		v v		v		
	t ₁	Test beam			(T)	R-603	R-203 (p) R-201	R-203 R-201		R-203 (p) R-201	S104 T 1/2 T	T S104 T	(p) R-603	R-603 (p)	R-603						
Target 8	q ₁₀	10	S105	(T)	T T		v v			1/2 v v v	v v v			v v		v v			v		
	m ₉	4	S 86	(v)	v v		v v			(p) R-102		R-102	(p) S84	T T		S84 T					
SE 62	b ₁₇	4	S 82			R-602 v v		R-602 v v						S109 T T							
	k ₁₂ :k _{12a}	4 8	P7 S109			v v		v v						S109 8 wks. k12a		v v		4/5 v		v v	
	p ₄																				
	p ₅ , p ₇	6 8	S 94 S102			v v		v v			S102 P7	v v			v v		4/5 v		v v		
	e _{9N}	4	S103		(v)	v		v v													
	e _{9S}	6	S 93			v v		v v													
Target 6	k ₁₃				v v v v v v		Reserve			Install. HyBUC		T T			T T			4/5 T T		T T	
FE 58	u ₅			(T)	v v v v v v v v							m ₆ v	v v v v v v v v		v v v v v v v v						
FE 74	v p ₆ , m ₁₂			(T)	T T		T T		T T	Neutrino 1/2 v			Neutrino v v	← m ₁₂ →		m ₁₂ v v				P10, exot- ic nuclei	v v

No allocated time for neutrino and m₁₂.

TABLE 3

Power and Cooling Requirements for ISR Experiments of Phase I

Location and components to be cooled	Power dissipation kW	Δp kg/cm ²
<u>Intersection I 1</u>		
Saclay magnet (R 102)	250	12 ¹⁾
<u>Intersection I 2</u>		
<u>Small angle spectrometer (R 201)</u>		
1st Septum magnet	540	10
2nd Septum magnet	480	10
Three MC 2m, 160 kW each	480	8
<u>Medium angle spectrometer (R 202)</u>		
Septum magnet	190	15
Septum magnet correction coils	3	15
MC 1 m	145	12
MH 2 m	140	4
<u>Large angle spectrometer (R 203)</u>		
Main magnet	400	27 ¹⁾
Auxiliary magnet	80	5
<u>Muon detector (R 204)</u>	25	5
(Two 20 kA bus bar systems, 50 kW each	100	<5 ²⁾
(R 201) (Two 20 kA rectifiers, 260 kW each)	500 ³⁾	5
Other rectifiers (in A2 Building)	negligible	5
<u>Intersection I 6</u>		
Two magnets (steel septum type) (R 602) 600 kW each	1200	15
Approximate total power dissipation	4533	

- 1) Booster pump will be installed
- 2) Raw water. Filter will be necessary.
- 3) Approximate value

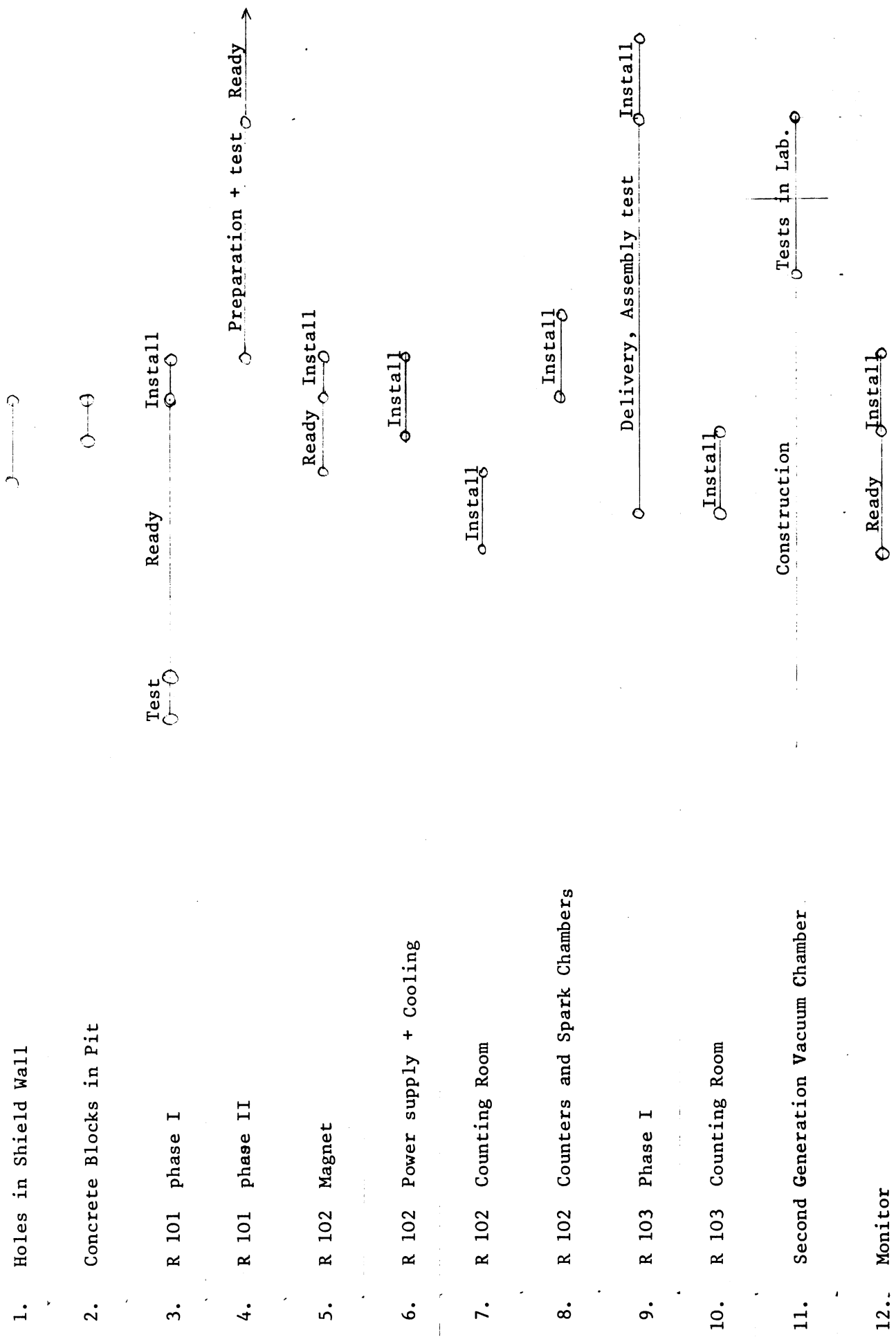


Table 4 - Draft Timetable for Experiments in I-1

Designation	Responsibilities	MAR	APR	MAY	JUN	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
Shut down 12R	12R (E-100)																						
Cabling Plant - Water Pipes	12R (E-100)																						
AC Switchgear cabinet	12R (E-100)																						
Cabling Room	12R (E-100)																						
Area platform for test (cable)	12R (E-100)																						
High current bus bars	12R (E-100)																						
Support for 12R	12R (E-100)																						
Support for 12R	12R (E-100)																						
Support for 12R	12R (E-100)																						
Support for 12R	12R (E-100)																						
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Support for 12R	12R (E-100)																						

Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.

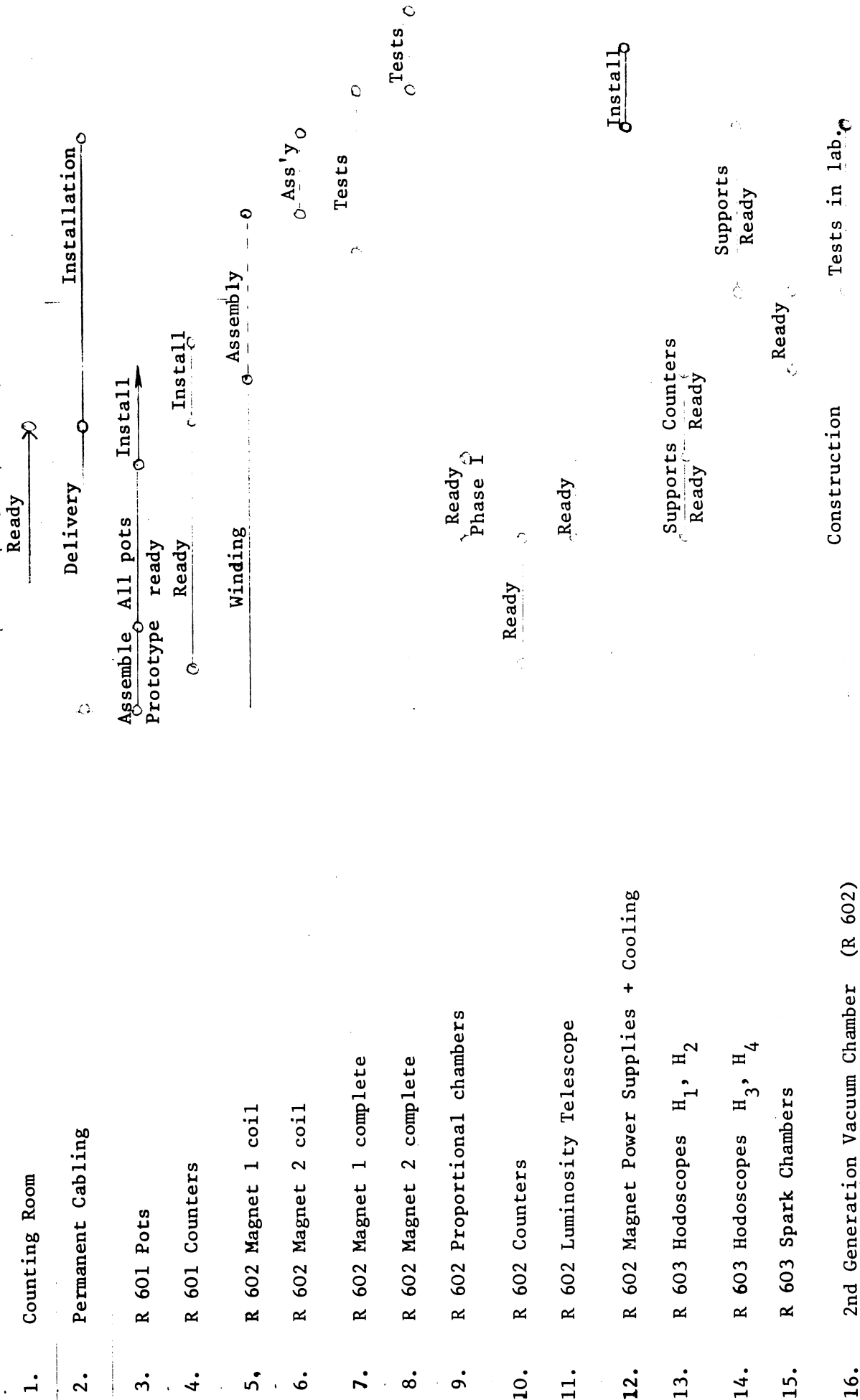
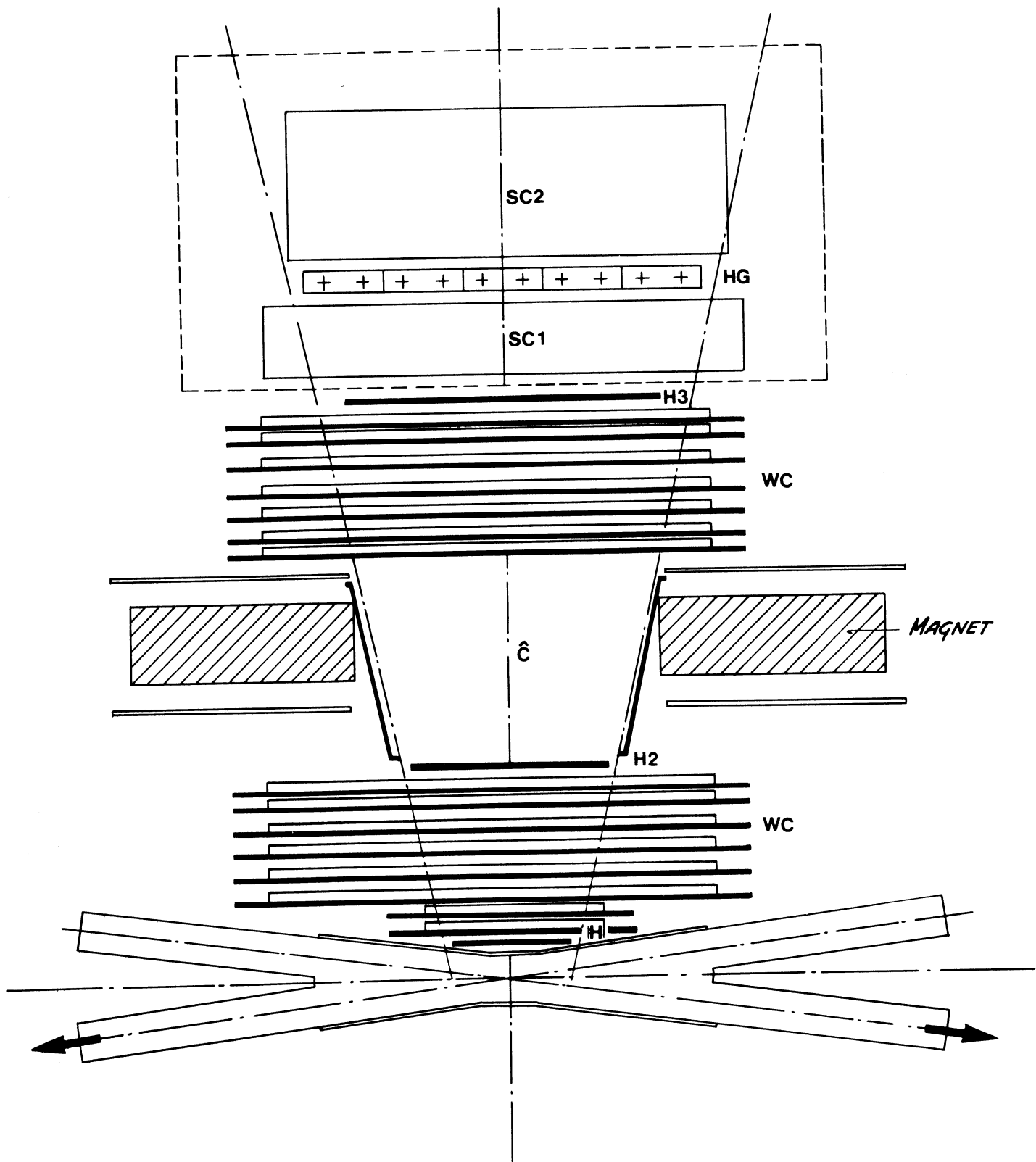


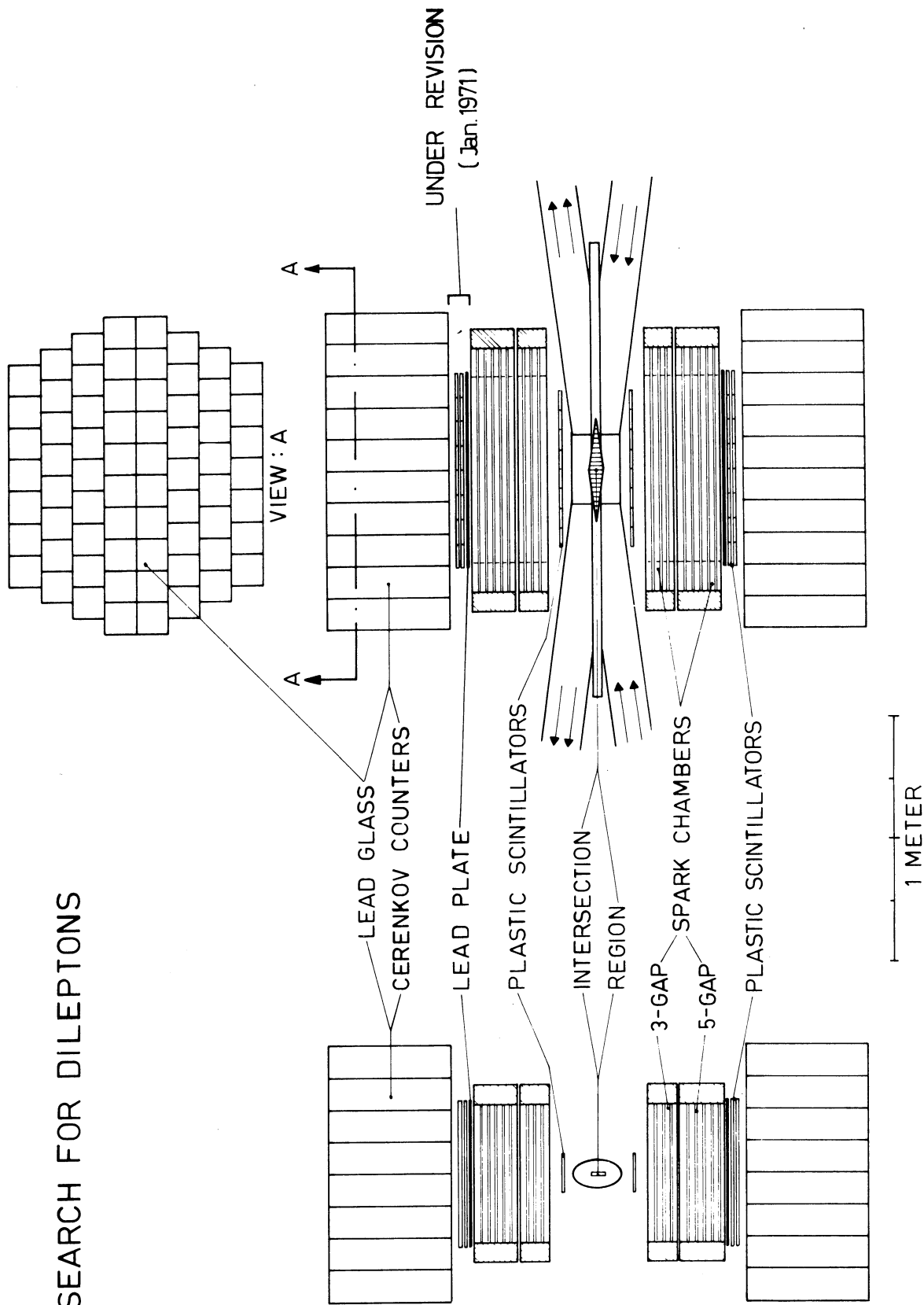
Table 6 - Draft Timetable for Experiments in I-6



EXPERIMENT R 102

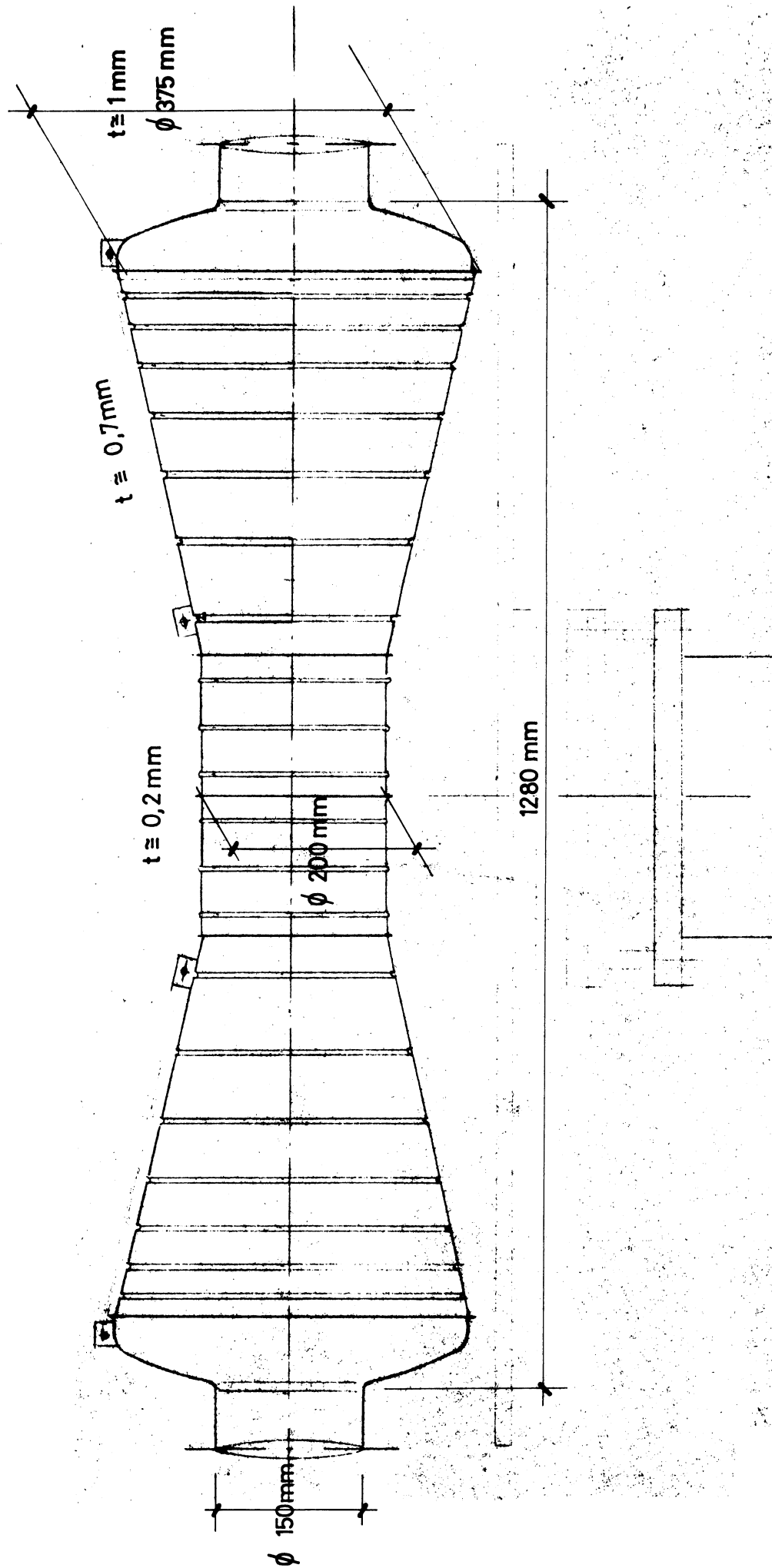
FIG. 3

SEARCH FOR DILEPTONS



EXPERIMENT R 103

FIG. 4



MODEL OF CORRUGATED CONE UNDER
STUDY FOR I1 , I2 AND I6

FIG. 5

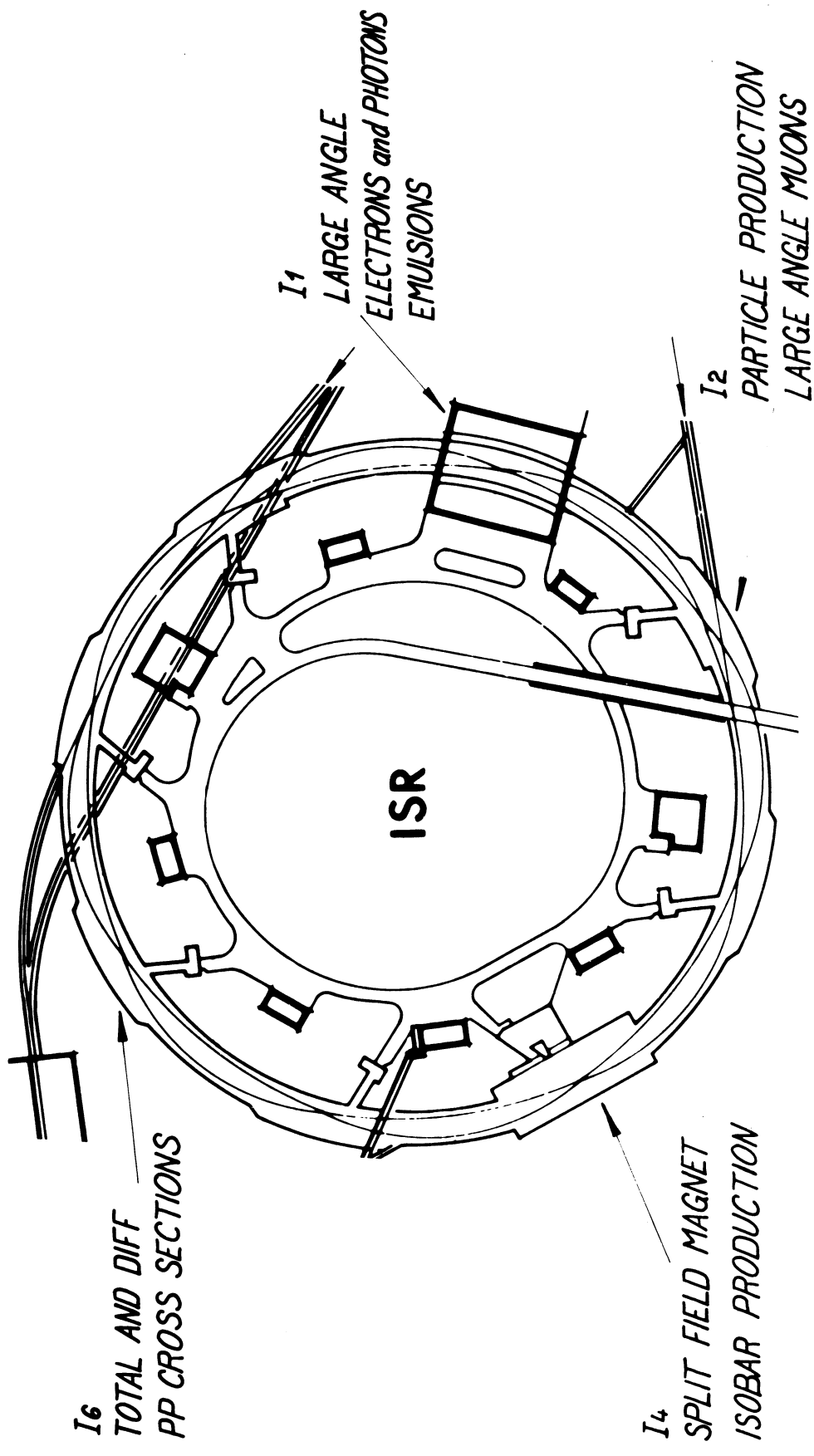
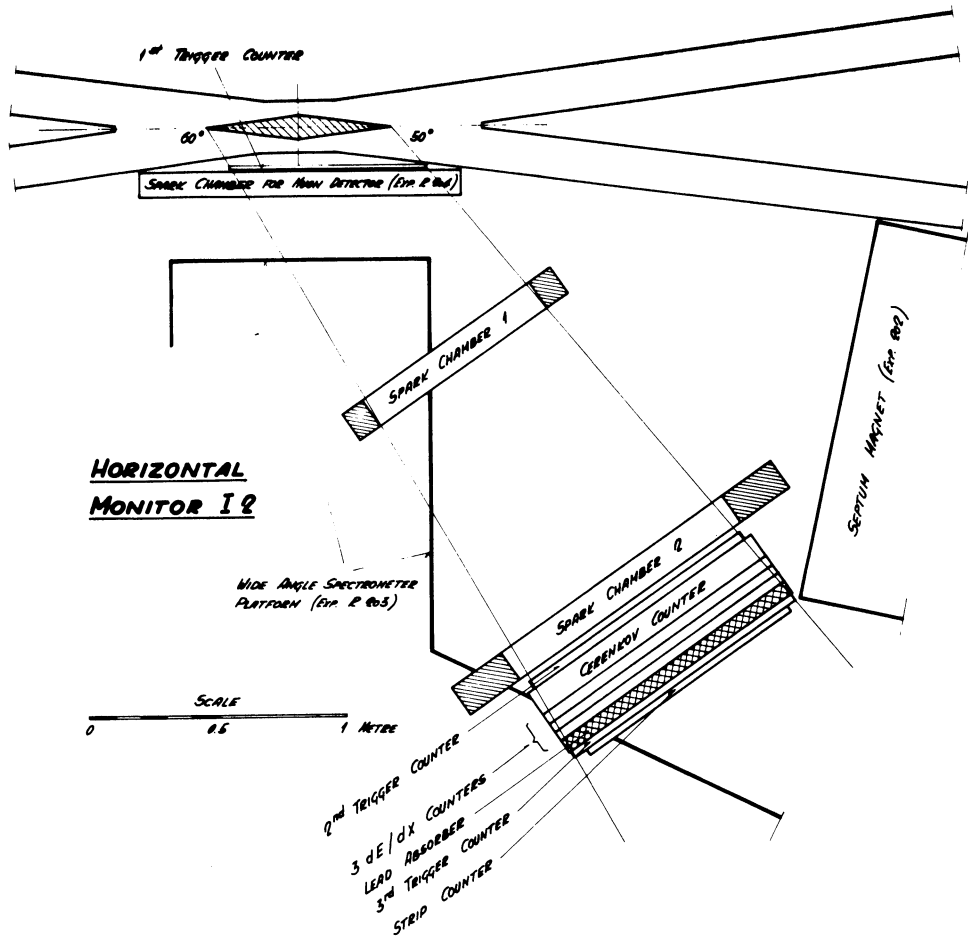


FIG. 1



VERTICAL MONITOR I Q

(VIEW ALONG BISECTOR)

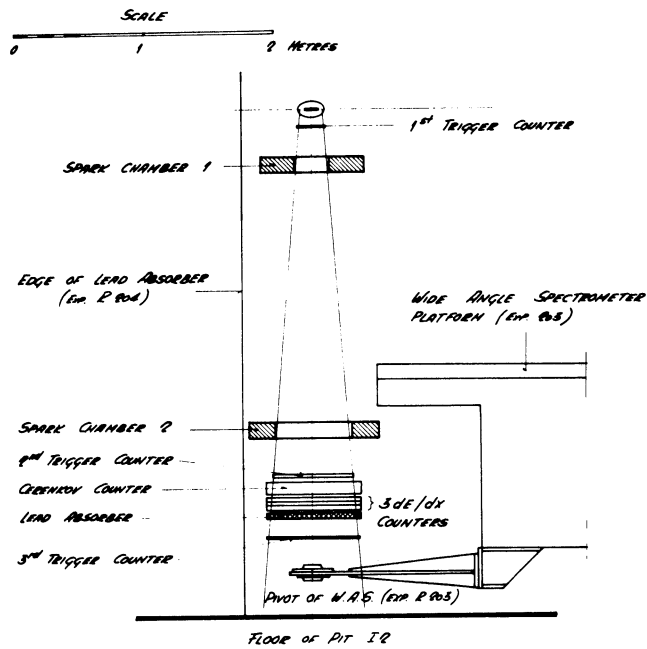
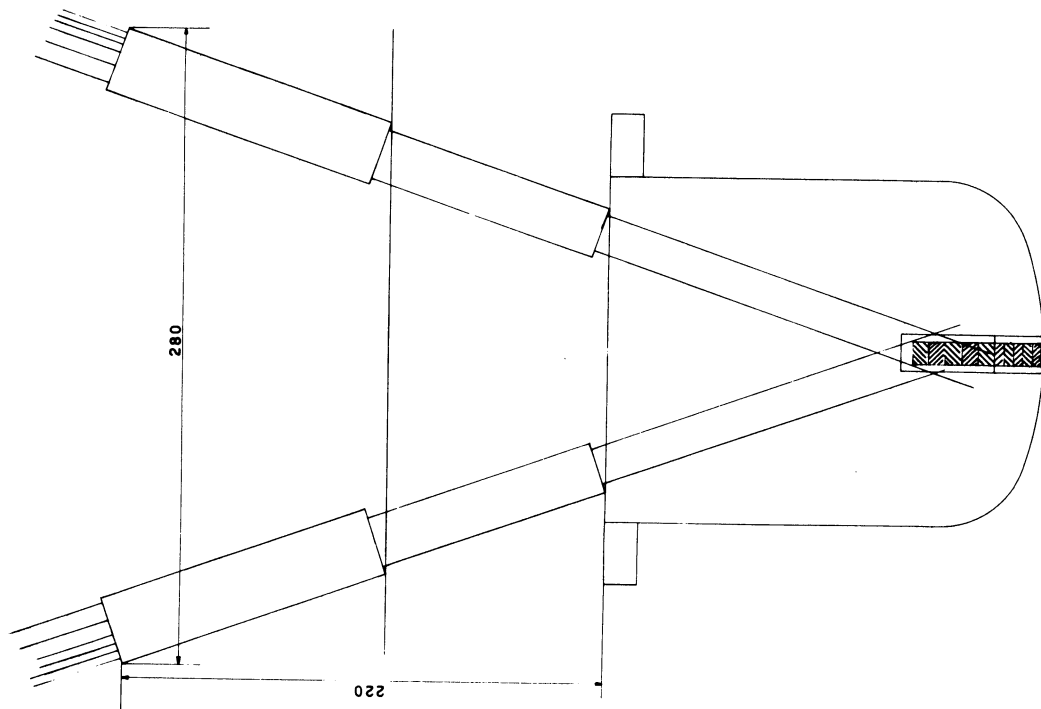
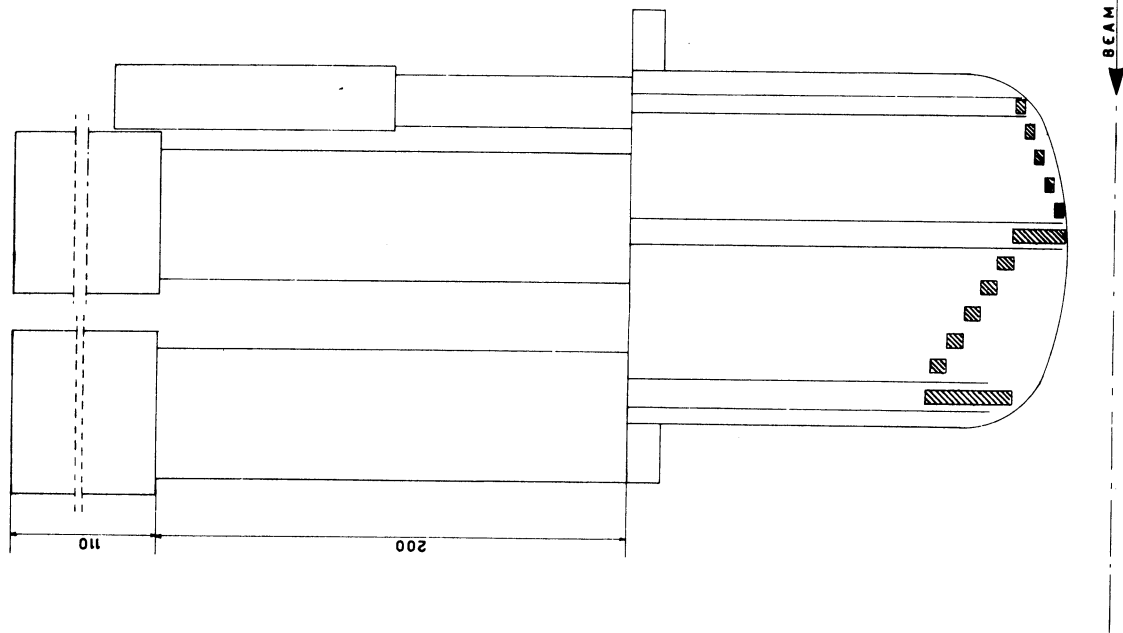
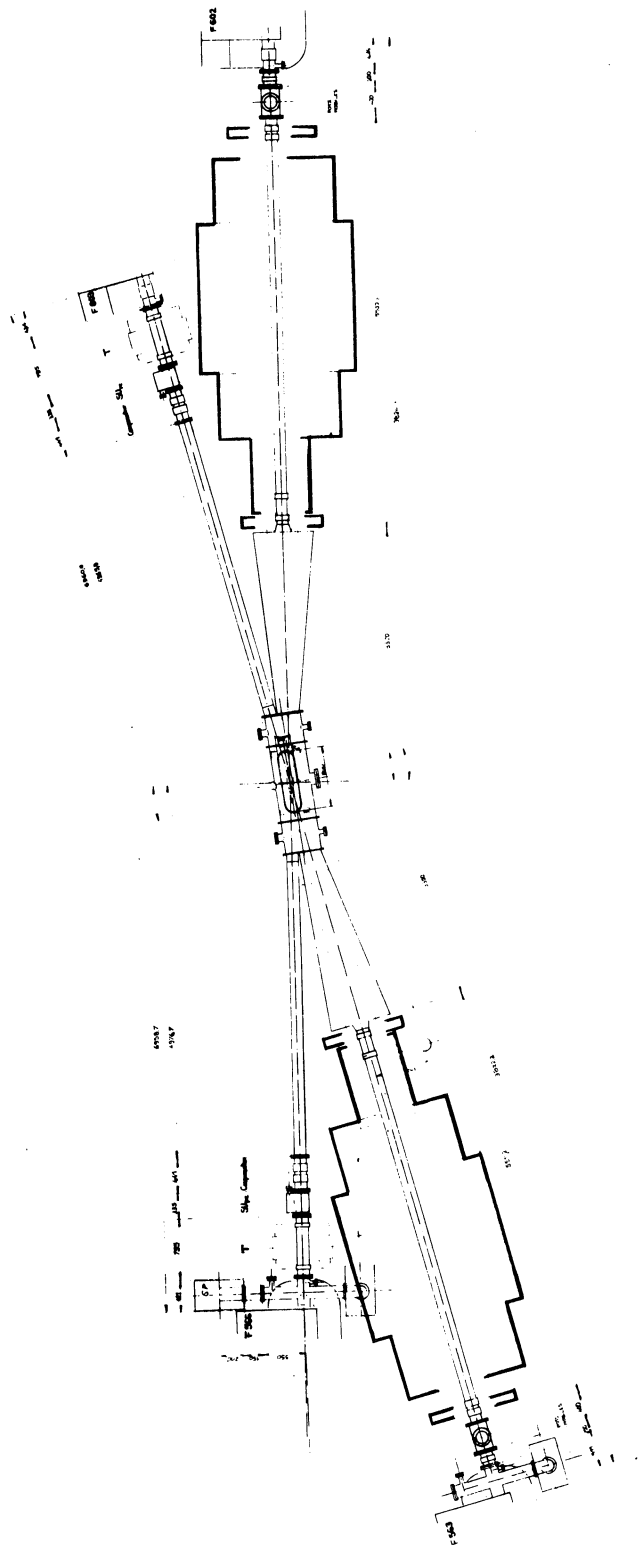
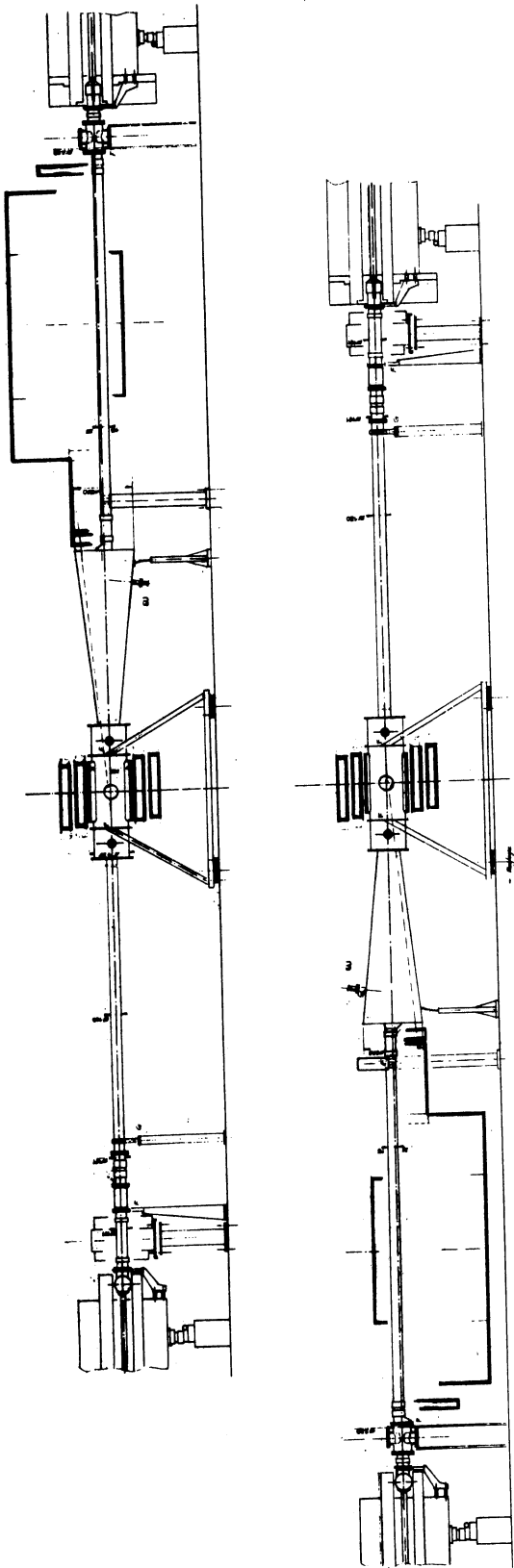


FIG. 10



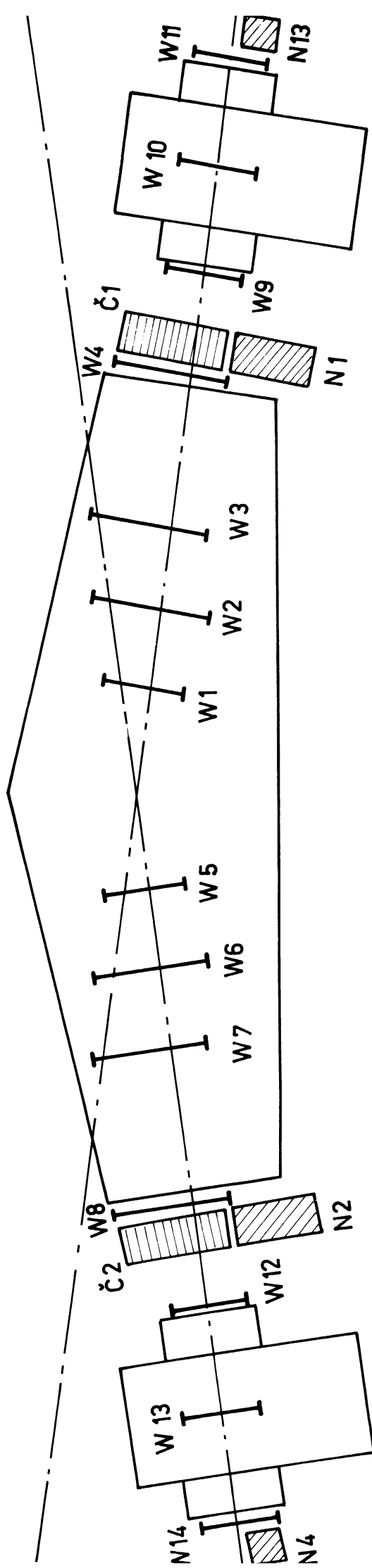
DETAIL OF EXPERIMENT
R 601

FIG. 13



EXPERIMENT R 602

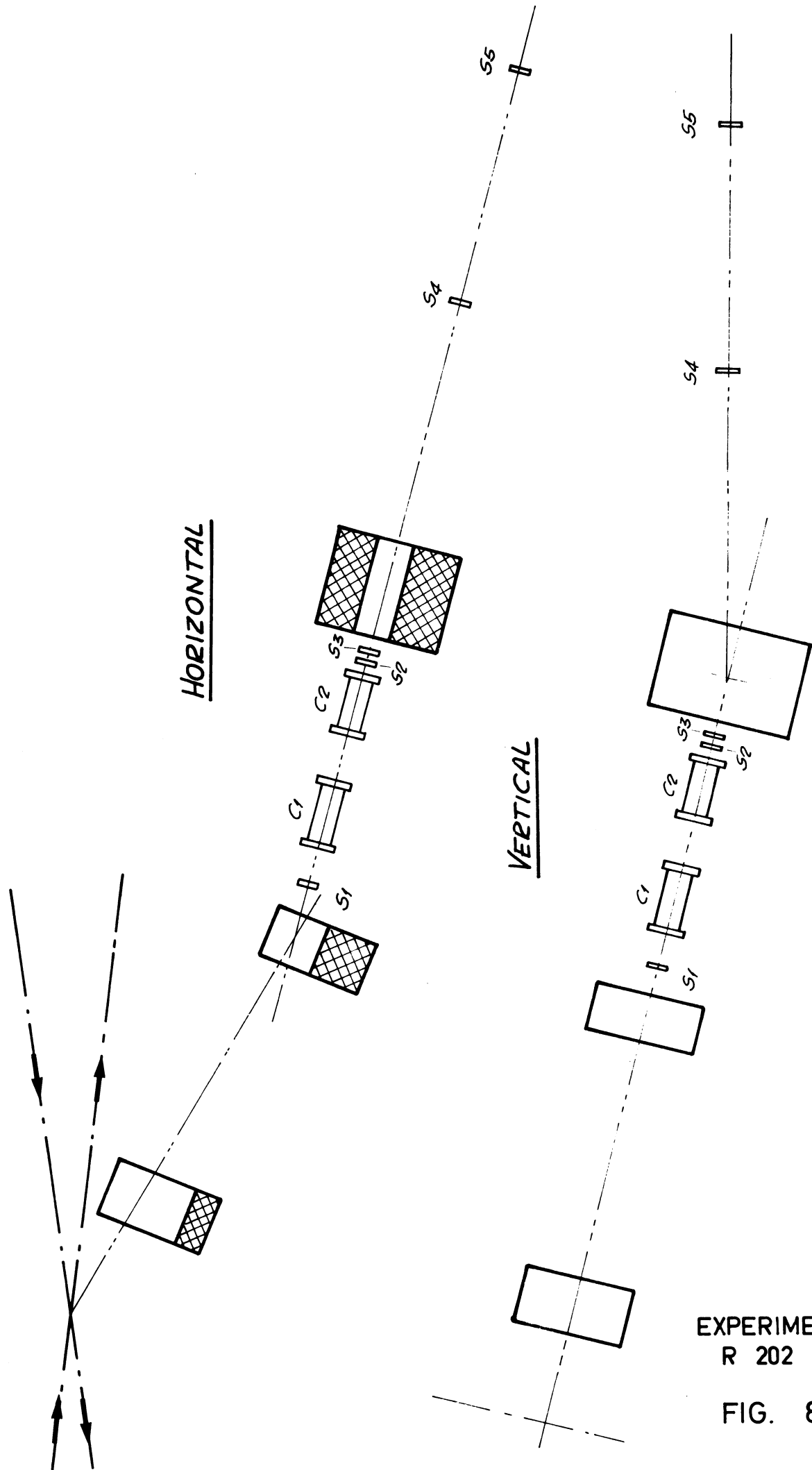
FIG. 14



EXPERIMENT R 401

FIG. 11a

NOT TO SCALE



EXPERIMENT
R 202

FIG. 8

