

CERN/ISR/EXP/4
October 1972

EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

PROGRAMME OF ACCEPTED EXPERIMENTS
CERN INTERSECTING STORAGE RINGS

October 1972

Table 1 : ISR Experiments running or accepted
Table 2 : ISR Experiments completed at 1.10.1972

K.M. Potter
ISR Co-ordinator.

NOTE: Figures of Intersections 1 - 8 not attached.
These will be added to the final version.

Table I
ACCEPTED CERN ISR EXPERIMENTS

Area	Expt. Code	ISRC Reference Number	Description of Experiment	Present composition of group	Date of NRPC Acceptance	Status
I-1	R-103	CERN/ISRC/69-43, and Add.1	Search for Massive Dileptons	CERN-Columbia-Rockefeller: Büscher, Camilleri, DiLella, Pope, A. Smith, Yoh, Zavattini; Blumenfeld, Lederman; Cool, L.Litt, Segler	NRPC 85 5.11.1969	In Production
I-1	R-104T	CERN/ISRC/70-19, Add.1, 2	Search for High Energy multigamma events	Brookhaven-Grumman- Rome: L.C.L. Yuan; Ed. Amaldi, Borgia, Beneventano, Pistilli	NRPC 98 4. 6. 1971	Parasitic on Experiment R-103
I-1	R-105	CERN/ISRC/72-13 and Add.1	To measure high transverse momentum charged particles	Saclay: Banner, Cheze, Hamel, Matichard, Stirling, Teiger, Zaccone	NRPC 110 30.8.1972	Installation during shut-down

T = Test experiment.

Table 1 (cont'd)
ACCEPTED CERN ISR EXPERIMENTS

Area	Expt. Code	ISRC Reference Number	Description of Experiment	Present composition of group	Date of NRPC Acceptance	Status
I-2	R-201	CERN/ISRC/69-5, and Add.1, 2, 3, 4 CERN/ISRC/69-9	Production of stable particles at small angles	CERN-Holland-Lancaster-Manchester-Coll. (CHLM): Albrow, Barber, Bogaerts, Bosnjakovic, Erné, Sens, Veen, Terwilliger, Clegg, Locke, Lobinger, Gee, (Kanaris), Murphy	NRPC 84 4.7.1969	In Production
I-2	R-202	CERN/ISRC/69-7, and Add.1	Study of particle production in high energy proton-proton collisions at medium angles	Argonne-Bologna: Antinucci, Bussière, Bertin, Capiluppi, D'Agostino-Bruno, Giacomelli, Maroni, Rossi, Vannini	NRPC 84 4.7.1969	1st Phase complete a), 2nd Phase in product.
I-2	R-203	CERN/ISRC/69-2 CERN/ISRC/69-3 CERN/ISRC/69-44 CERN/ISRC/71-9	a) Experiment to determine production spectra of π^\pm, K^\pm , p, d... etc. at large angles. b) Search for "Quarks" at large angles	The collaboration mentioned below and the Scandinavian Coll.: Bøggild, Damgaard, (Hansen), Jarlskog, Jönsson, Kloving, Leistam, Lillethun, Lynch, Von Dardel, Korder, Weiss	NRPC 84 4.7.1969	Installing high momentum mode
I-2	R-204	CERN/ISRC/69-3	Measurement of muons with large transverse momentum as a search for the intermediate boson	British Universities coll.: Alper, Birge, Bulos, (Carro), Cence, Duff, Potter, Sharp, Sharrock, (Manning), (Heymann), (Quarrie), (Malos), (Booth), Prentice (Jackson)	NRPC 84 4.7.1969	In Prod.

(. . . .) = participating in experiment but not now at CERN.

a) See Table of completed Experiments (Table 2).

Table 1 (cont'd)
ACCEPTED CERN ISR EXPERIMENTS

Area	Expt. Code	ISRC Reference Number	Description of Experiment	Present composition	Date of NRPC Acceptance	Status
I-4	R-401	CERN/ISRC/69-14	Measurement of energy dependence of iso-bar excitation in proton-proton collisions	CERN-Hamburg-Orsay-Vienna(CHOV) Coll.: Aubert, Bartl, Broll, Coignet, Dibon, Favier, Flügge, Gottfried, Massonet, Neuhofen, Niebergall, Regler, Schmidt-Parzefall, Schubert, Schumacher, Smith, Vivargent, Winter	NRPC 83 4.7.1969	Expt. to be performed in Split-Field Magnet (Magnet Installation Jan. '73)
I-4	R-403 T	CERN/ISRC/70-5	S.F.M. Test and Survey Collaboration: (S.F.M. = Split Field Magnet)	S.F.M.: Charpak, Coignet, Fischer, Flügge, Gottfried, Minten, Sauli	NRPC 95 3.2.1971	Test Experiment in progress
I-4	R-404 T	CERN/ISRC/70-18 and add. 1, 2	Test of a proposal to search for Heavy Baryon Isomers	CERN-Hamburg-Vienna Coll.: Flügge, Gottfried, Neuhofen, Niebergall, Regler, Schmidt-Parzefall, Schubert, Winter	-	Test Expt. in progress

T = Test Experiment

Table 1 (cont'd)
ACCEPTED CERN ISR EXPERIMENTS

Area	Expt. Code	ISRC Reference Number	Description of Experiment	Present composition	Date of NRPC Approval	Status
I-4	R-406	CERN/ISRC/70-31 and Add.1 and 2	Search for fractionally charged or massive particles at the ISR	Bologna - CERN Coll: Basile, Bollini, Brunini, Fiorentino, Frabetti, Massam, Monari, Navarria, Palmonari, Zichichi	NRPC 110 30.8.1972	No time allocation yet
I-4	R-407	CERN/ISRC/71-30 and Add.1	To measure two-particle correlations in multiparticle events in the fragmentation region with the SFM spectrometer	Karlsruhe- CERN Collaboration: Moritz, Schmidt, Schneider, Schopper, Wegener	NRPC 110 30.8.1972	No time allocation yet
I-4	R-408	CERN/ISRC/71-34	To measure inelastic proton-proton scattering at the ISR	Charpak, Drijard, Dunwoodie, Fischer, Innocenti, Minten, Sauli	NRPC 110 30.8.1972	No time allocation yet
I+4	R-409	CERN/ISRC/71-36	A minimum-bias-trigger experiment using the SFM to study typical beam-beam events	Breidenbach, Fabjan, Gjesdal, Steinberger, Williams, Winstein	NRPC 110 30.8.1972	No time allocation yet
I-4	R-410	CERN/ISRC/71-37, 72-7 and Add.1	Study of particle correlations at large angles	MIT-Orsay-Scandinavian Collaboration: Becker, Busza, Cheng, Sadrozinski, Ting, Sau Lan Wu, Wu	NRPC 110 30.8.1972	No time allocation yet

Table 1 (cont'd)
ACCEPTED CERN ISR EXPERIMENTS

Area	Expt. Code	ISRC Ref. Number	Description of Experiment	Present composition of group	Date of NRPC Acceptance	Status
I-6	R-601	CERN/ISRC/69-20, and add. 1, 2 CERN/ISRC/70-7, and add. 1, 2	The measurement of proton-proton differential cross section in the Coulomb interference region	CERN-Rome Coll.: Allaby, Bartel, Cocconi, Diddens, Dimcovski, Dobinson, Litt, J., Wetherell; U. Amaldi, Biancastelli, Bosio, Matthiae	NRPC 83 4.7.1969	In Prod.
I-6	R-602	CERN/ISRC/69-19, and add. 1, 2, 3	a) Measurement of the elastic scattering cross section beyond the Coulomb interference region. b) Search for "Quarks" at small angles.	CERN-Aachen-Genova-Harvard-Torino Coll.: Boehm, Foeth, Staude, Umbach; Jovanovich, Orito, Rubbia, Strolin, Bozzo, De Zorzi, Diambrini, Sete, Ferrero, Maderni	NRPC 83 4.7.1969	Elastic Scattering measurements. In Prod.
I-6	R-603	CERN/ISRC/71-45 and add. 1	Δ^{++} Spectroscopy Studies	Aachen-UCLA-CERN-Harvard, Torino Coll.: Staude, Boehm, Drickey, Rabin, Rander, Schlein, Hansroul, F. Muller, Palazzi, Rubbia, Strolin, Pilcher, Sulak, Maderni	NRPC 104 2.2.1972	Install. after completion of R-602

Table 1 (cont'd)
ACCEPTED CERN ISR EXPERIMENTS

Area	Expt. Code	ISRC Ref. Number	Description of Experiment	Composition of group	Date of NPRC Acceptance	Status
1-7	R-701	CERN/ISRC/72-17	Observation of inelastic proton-proton collisions with streamer chambers	Aachen,CERN,Münich Collaboration: Eggert, Holder; Darriulat,Gygi, Schneider, Tittel; Derado,Eckardt, Schmitz, Seyboth,Mc Donald, Pugh	NPRC 110 30.8.1972	Installation during shut- down

Table I (Cont'd)
ACCEPTED CERN ISR EXPERIMENTS

Area	Expt. Code	ISRC Reference Number	Description of Experiment	Present composition of group	Date of NPRC Acceptance	Status
I-8	R-801	CERN/ISRC/69-12	Measurement of the p-p total cross section	Pisa-Stony Brook Coll.: Amendolia, <u>Bellettini</u> , Braccini, Bradachia, <u>Castaldi</u> , Cerri, Ciancaglini, <u>Del Prete</u> , <u>Einocchiaro</u> , Foà, Giromini, Grannis, D. Green, Laurelli, Menzione, Mustard, Ristori, Sanguinetti, Valada, Thun	NPRC 83 4.7.1969	In Production
I-8	R-802	CERN/ISRC/71-41 and Add. 1 and 2	Particle Production in the forward direction	CERN-Rome Coll.: Allaby, Bartel, Cocconi, Diddens, Dimcovski, Dobinson, Litt, J., <u>Wetherell</u> , U. Amaldi, Bian- castelli, Bosio, <u>Matthiae</u>	NPRC 107 3.5.1972	In Preparation, starting anti- cipated after shut-down

Table 2
ISR Experiments completed at October '72

Area	Expt. Code	Description of Experiment	Authors	Completion of Data-taking	Status
I-1	R-101	Emulsion Exposures giving:- a) Angular distribution of charged particles between 35^0 and 90^0 b) Stopping particles at 90^0	CERN-Cracow-Bucharest-Tata emulsion collaboration: Annoni,Cordaiat,Czyzewski, Friedländer,Gierula,Gurtu, Haiduc,Herz,Marin,Vicky,Wolter	September 1971	a) Published b) Submitted to Phys.Letters.
I-2	R-202	Study of positive particle production with a single arm spectrometer at medium angles	Argonne-Bologna-Michigan Collaboration: Ratner,Ellis,Vannini,Babcock,Krisch, Roberts	September 1971	Published (Study of negative particle production continuing. See Table 1).
I-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-Strasbg.: Banner,Cheze,Hamel Stirling,Teiger,Zaccone,Pansart; Bassompierre,Croissiau,Gresser, Morand,Schneegans,Riedinger	April 1972	Published
I-1	R-402	Search for fractionally charged particles	CERN-Munich Collaboration: Caldwell, Fabjan,Bruhn,Hyams,Sauli,Zahniser, Bott-Bodenhausen,Stierlin,Rochester, Winstein,Tirler	August 1972	Submitted to Phys.Lett.
I-5	R-405	Neutron Production at small angles	CERN-Karlsruhe Coll.: Engler,Flaeger, Gibbard,Mönnig,Runge,Schopper	October 1972	Completed

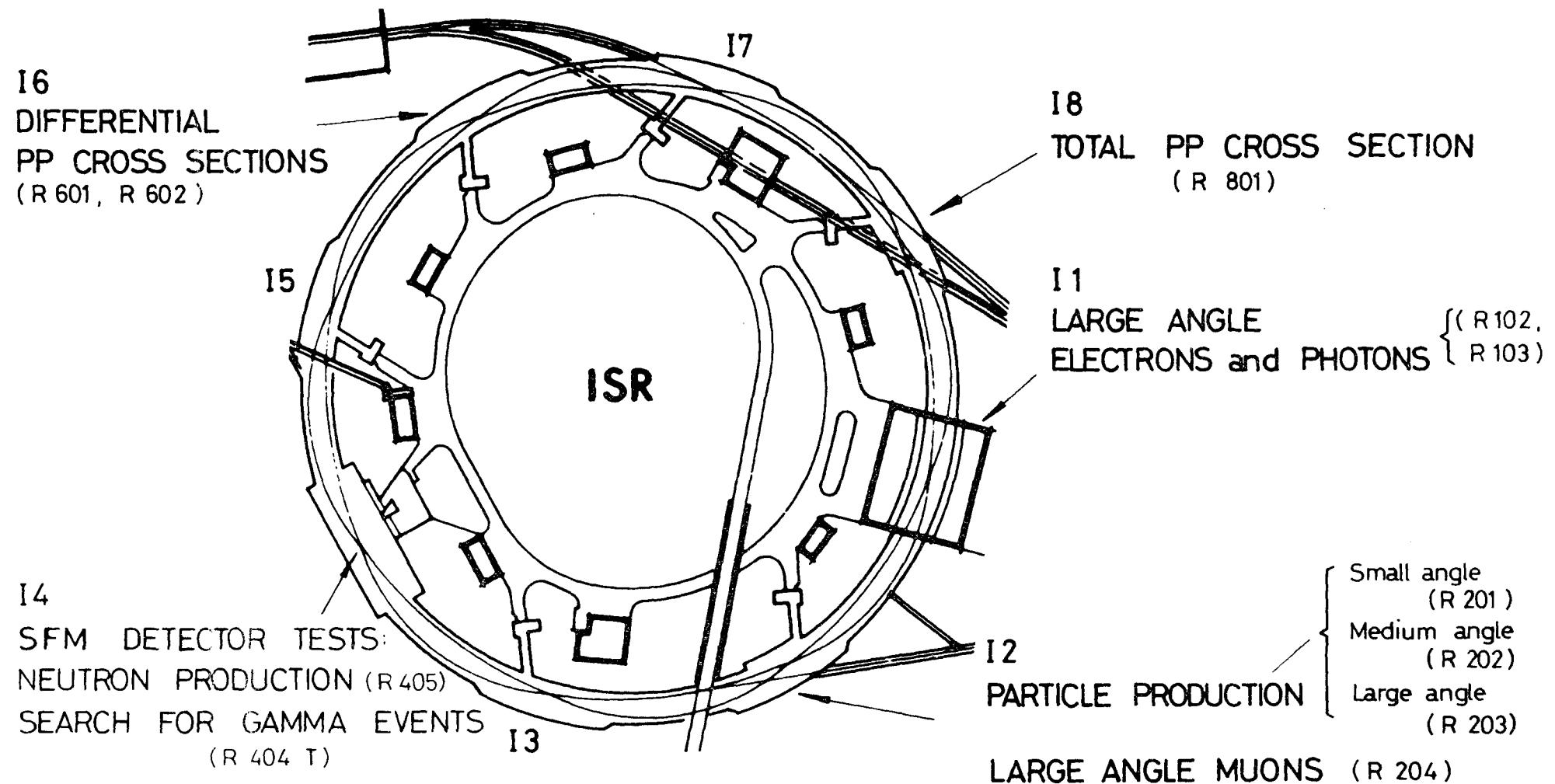
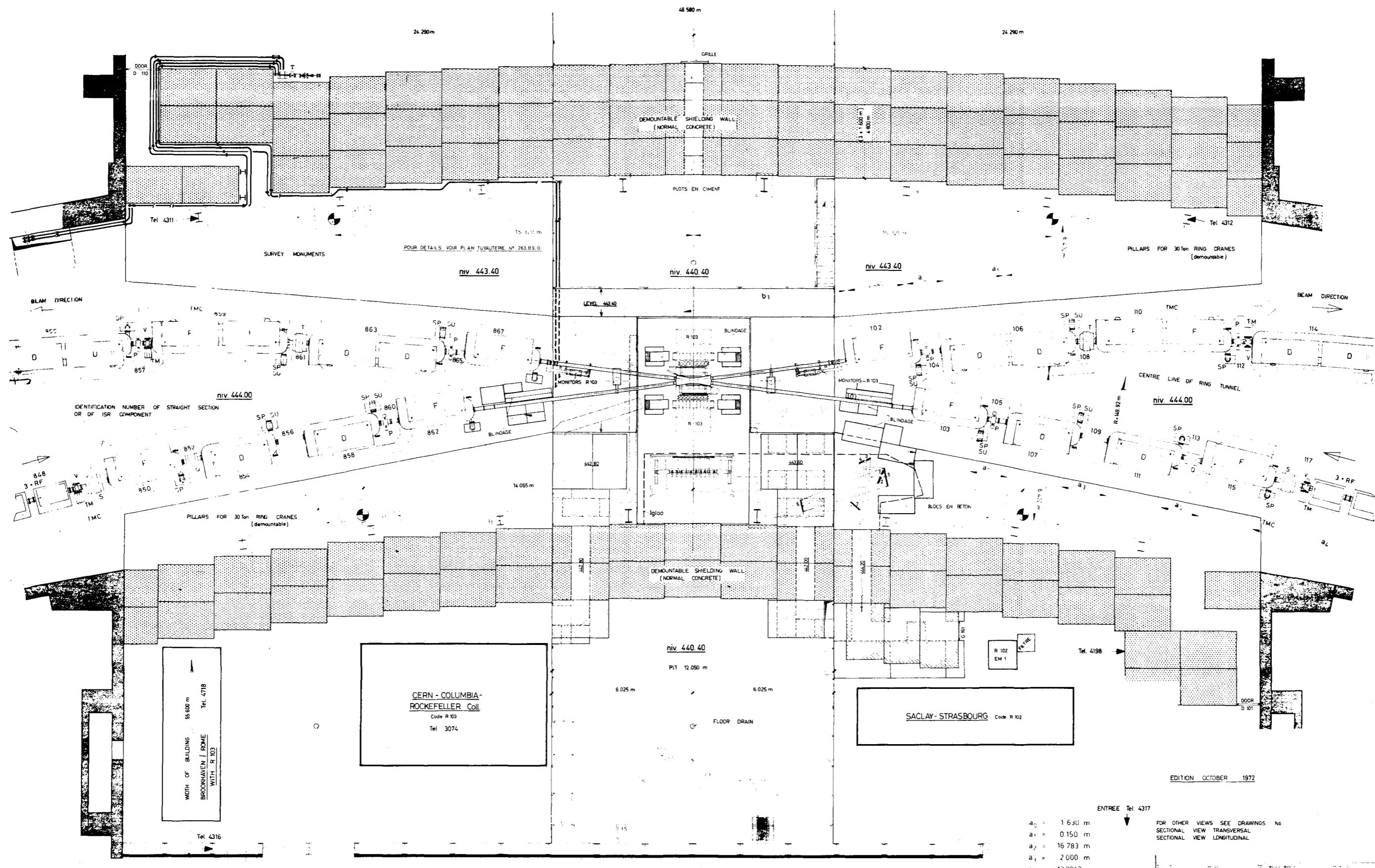


Fig. 1

ISR EXPERIMENTS

October 1972

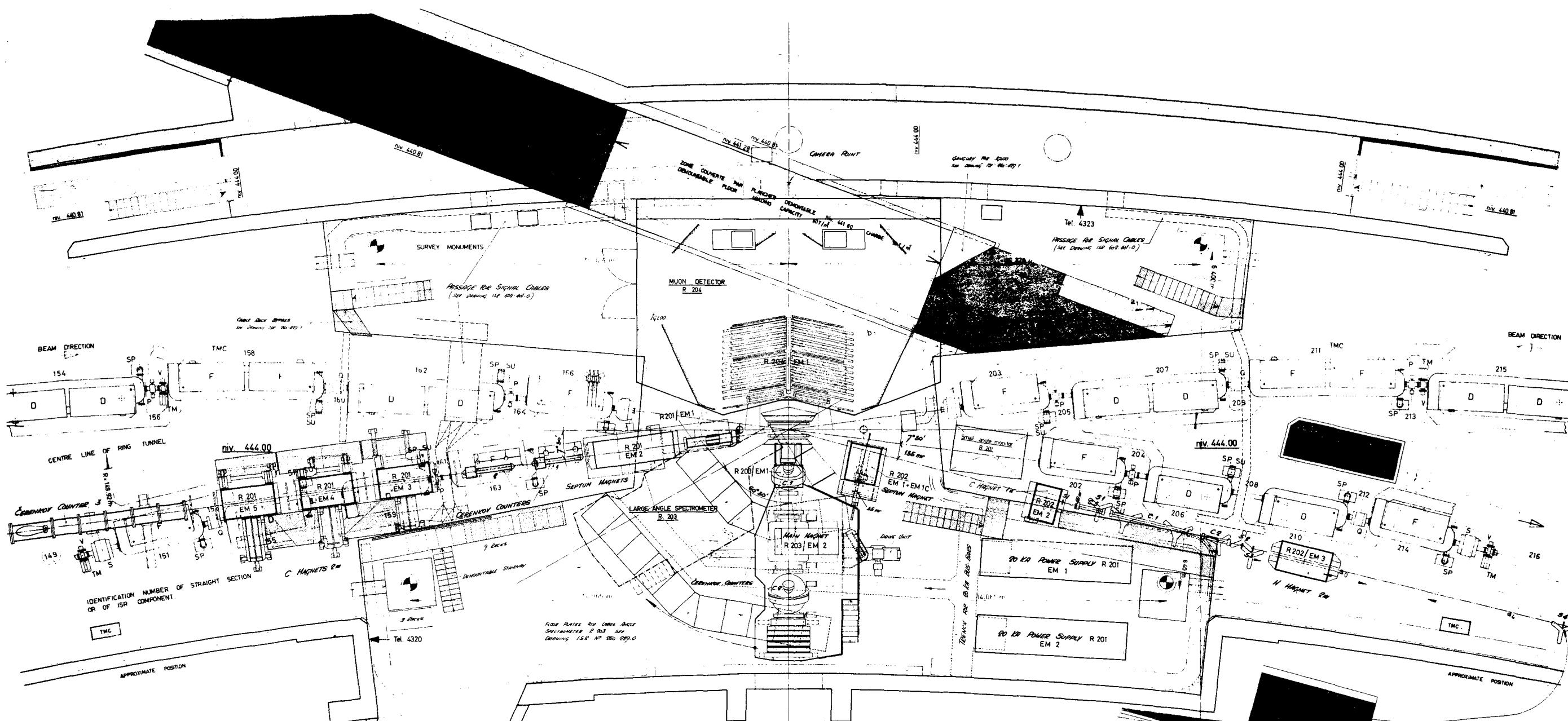


AVERAGE RADIUS	=	150,025
MAXIMUM RADIUS	=	154,308
MINIMUM RADIUS	=	145,514
INTERSECTING RADIUS	=	148,615

SECTIONAL VIEW TRANSVERSAL
SECTIONAL VIEW LONGITUDINAL

EDITION OCTOBER 1972

4317
FOR OTHER VIEWS SEE DRAWINGS No
SECTIONAL VIEW TRANSVERSAL
SECTIONAL VIEW LONGITUDINAL



F RADIALY FOCUSING UNIT
 D RADIALY 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

NOTE:

<input type="checkbox"/>	HORIZONTAL BENDING MAGNET
<input type="checkbox"/>	VERTICAL BENDING MAGNET
<input type="checkbox"/>	DEFOCALIZING QUADRUPOLE
<input type="checkbox"/>	FOCALIZING QUADRUPOLE
<input type="checkbox"/>	BEAM STOPPER
<input type="checkbox"/>	BEAM DUMP
<input type="checkbox"/>	ROUGHING PUMP
<input type="checkbox"/>	VERTICAL KICKER
<input type="checkbox"/>	TURBOMOLECULAR PUMPING STATION CONTROLS
<input checked="" type="checkbox"/>	SPECIAL DESIGN
<input type="checkbox"/>	SECONDARY EMISSION GRID FOR FIRST TURN OBSERVATION
<input type="checkbox"/>	HORIZONTAL KICKER

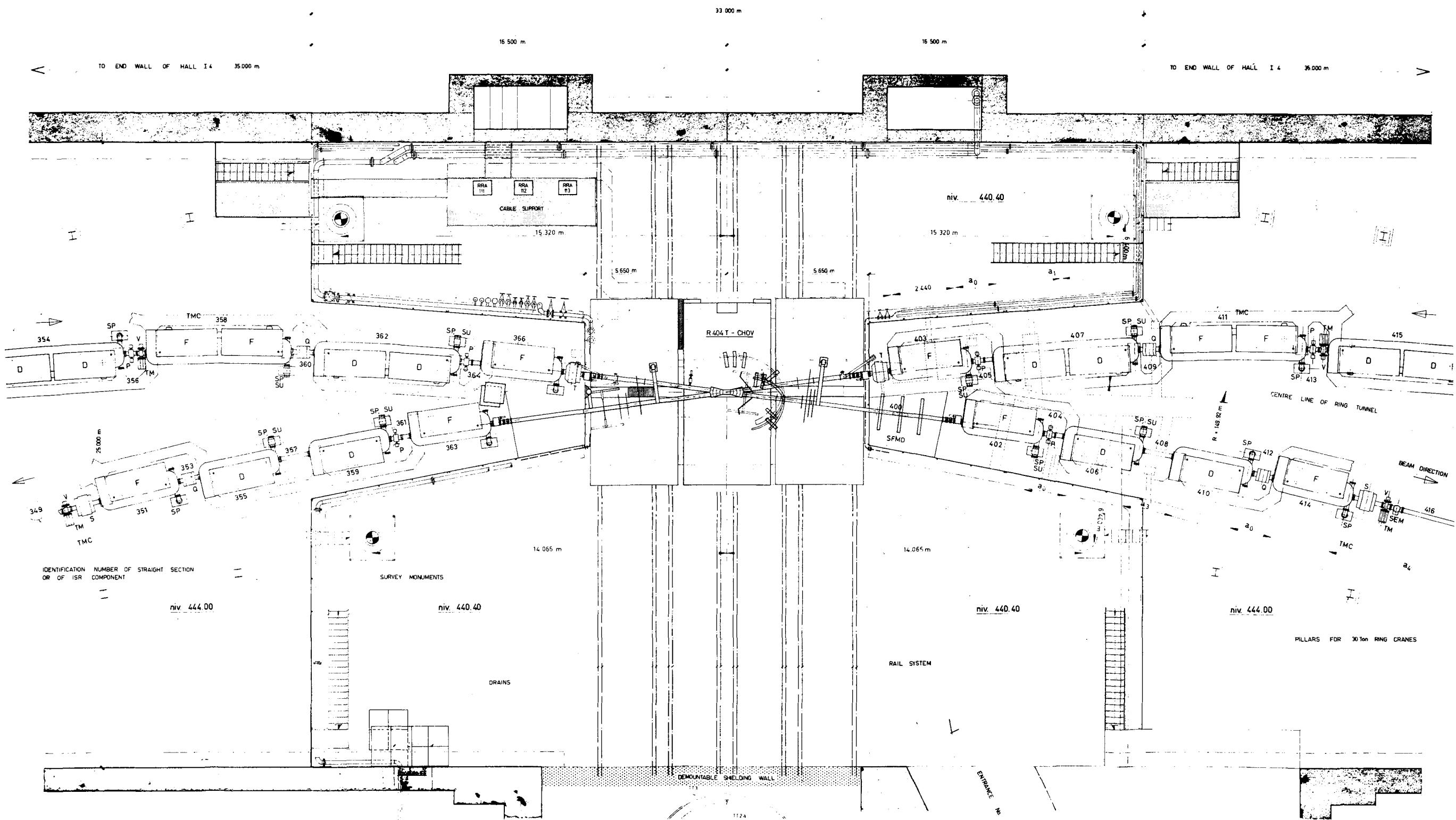
- | | |
|--------------------------|---------------------------------|
| <input type="checkbox"/> | SMALL ANGLE SPECTROMETER R 201 |
| <input type="checkbox"/> | MEDIUM ANGLE SPECTROMETER R 202 |
| <input type="checkbox"/> | LARGE ANGLE SPECTROMETER R 203 |
| <input type="checkbox"/> | MUON DETECTOR R 204 |

NOTE BAY 122

AVERAGE MACHINE RADIUS = 150.025 m
 MAXIMUM RADIUS = 154.308 m
 MINIMUM RADIUS = 145.5134 m
 INTERSECTING RADIUS = 148.6151 m

EDITION OCTOBER 1972
FOR OTHER VIEWS SEE DRAWINGS NO.
SECTIONAL VIEW TRANSVERSAL
SECTIONAL VIEW LONGITUDINAL

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800</td
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	---------



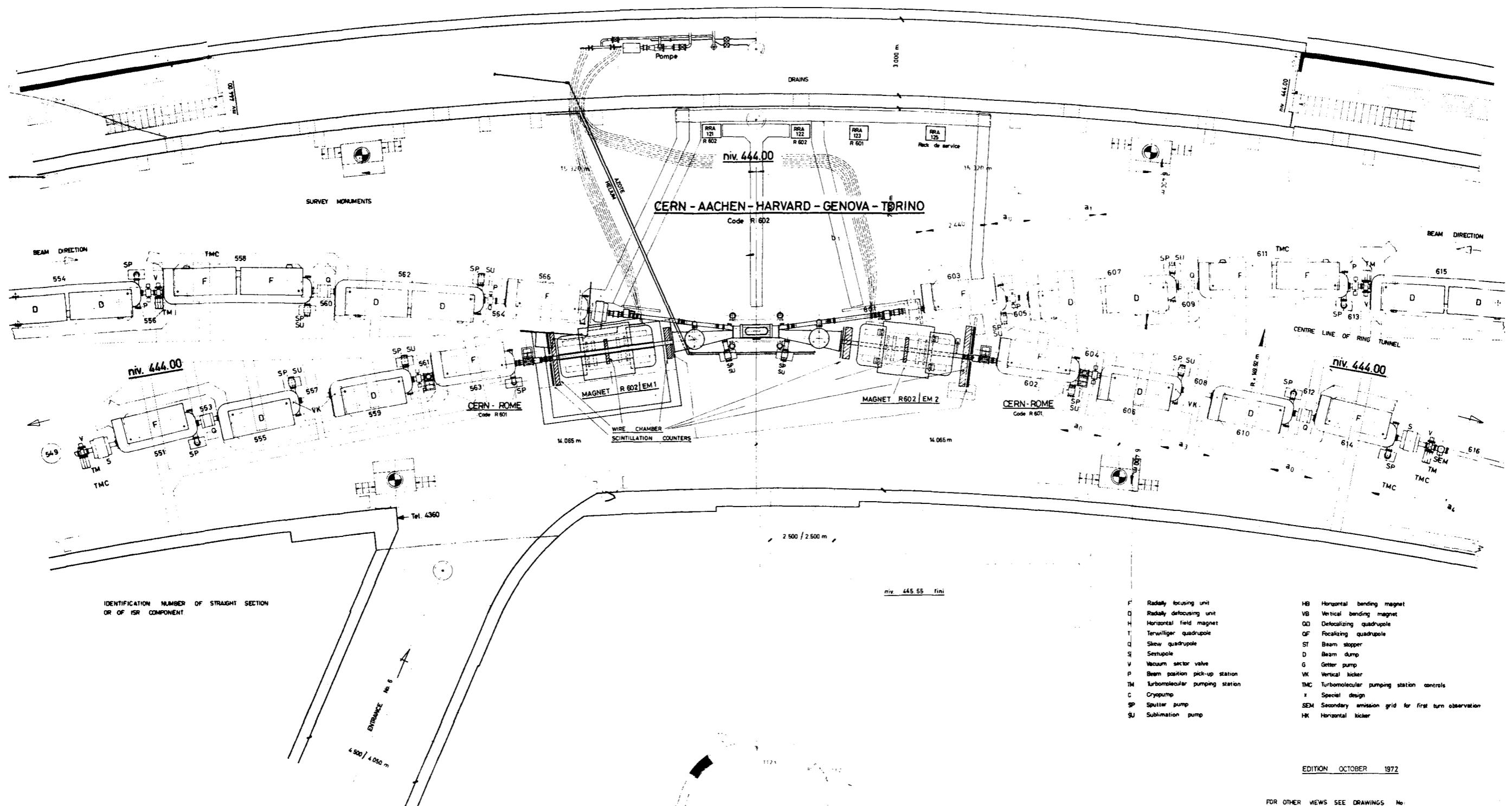
F	Radially focusing unit
D	Radially defocusing unit
H	Horizontal field magnet
T	Terwiller field magnet
C	Skew quadrupole
S	Sextupole
V	Vacuum sector valve
P	Beam position pick-up station
TM	turbomolecular pumping station
C	Cryopump
SP	Sputter pump
SU	Sublimation pump
HB	Horizontal bending magnet
VB	Vertical bending magnet
QD	Defocalizing quadrupole
DF	Focalizing quadrupole
SF	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 = 150.0253 m. $a_0 = 1.630 \text{ m}$.
 Maximum radius = 154.3081 m. $a_1 = 0.150 \text{ m}$.
 Minimum radius = 145.5134 m. $a_2 = 16.783 \text{ m}$.
 Intersecting radius = 148.6151 m. $a_3 = 2.000 \text{ m}$.
 $a_4 = 13.0042 \text{ m}$.
 $b_1 = 6.9608 \text{ m}$.
 $b_2 = 9.8243 \text{ m}$.

FOR OTHER VIEWS SEE DRAWINGS No:
 SECTIONAL VIEW TRANSVERSAL
 SECTIONAL VIEW LONGITUDINAL

EDITION OCTOBER 1972

Section	Description	Material	Observations
1	Mark Date	None	Technical drawings, Bureau 1000
2	2	1972	Revised 1972
3	3	1972	Archives: Abbreviations VSM 1000
4	4	1972	Archives: Design, Technical 1/200 1000
5	5	1972	Archives: Drawing 1/200 1000
6	6	1972	Archives: Drawing 1/200 1000
7	7	1972	Archives: Drawing 1/200 1000
8	8	1972	Archives: Drawing 1/200 1000
9	9	1972	Archives: Drawing 1/200 1000
10	10	1972	Archives: Drawing 1/200 1000
11	11	1972	Archives: Drawing 1/200 1000
12	12	1972	Archives: Drawing 1/200 1000
13	13	1972	Archives: Drawing 1/200 1000
14	14	1972	Archives: Drawing 1/200 1000
15	15	1972	Archives: Drawing 1/200 1000
16	16	1972	Archives: Drawing 1/200 1000
17	17	1972	Archives: Drawing 1/200 1000
18	18	1972	Archives: Drawing 1/200 1000
19	19	1972	Archives: Drawing 1/200 1000
20	20	1972	Archives: Drawing 1/200 1000
21	21	1972	Archives: Drawing 1/200 1000
22	22	1972	Archives: Drawing 1/200 1000
23	23	1972	Archives: Drawing 1/200 1000
24	24	1972	Archives: Drawing 1/200 1000
25	25	1972	Archives: Drawing 1/200 1000
26	26	1972	Archives: Drawing 1/200 1000
27	27	1972	Archives: Drawing 1/200 1000
28	28	1972	Archives: Drawing 1/200 1000
29	29	1972	Archives: Drawing 1/200 1000
30	30	1972	Archives: Drawing 1/200 1000
31	31	1972	Archives: Drawing 1/200 1000
32	32	1972	Archives: Drawing 1/200 1000
33	33	1972	Archives: Drawing 1/200 1000
34	34	1972	Archives: Drawing 1/200 1000
35	35	1972	Archives: Drawing 1/200 1000
36	36	1972	Archives: Drawing 1/200 1000
37	37	1972	Archives: Drawing 1/200 1000
38	38	1972	Archives: Drawing 1/200 1000
39	39	1972	Archives: Drawing 1/200 1000
40	40	1972	Archives: Drawing 1/200 1000
41	41	1972	Archives: Drawing 1/200 1000
42	42	1972	Archives: Drawing 1/200 1000
43	43	1972	Archives: Drawing 1/200 1000
44	44	1972	Archives: Drawing 1/200 1000
45	45	1972	Archives: Drawing 1/200 1000
46	46	1972	Archives: Drawing 1/200 1000
47	47	1972	Archives: Drawing 1/200 1000
48	48	1972	Archives: Drawing 1/200 1000
49	49	1972	Archives: Drawing 1/200 1000
50	50	1972	Archives: Drawing 1/200 1000
51	51	1972	Archives: Drawing 1/200 1000
52	52	1972	Archives: Drawing 1/200 1000
53	53	1972	Archives: Drawing 1/200 1000
54	54	1972	Archives: Drawing 1/200 1000
55	55	1972	Archives: Drawing 1/200 1000
56	56	1972	Archives: Drawing 1/200 1000
57	57	1972	Archives: Drawing 1/200 1000
58	58	1972	Archives: Drawing 1/200 1000
59	59	1972	Archives: Drawing 1/200 1000
60	60	1972	Archives: Drawing 1/200 1000
61	61	1972	Archives: Drawing 1/200 1000
62	62	1972	Archives: Drawing 1/200 1000
63	63	1972	Archives: Drawing 1/200 1000
64	64	1972	Archives: Drawing 1/200 1000
65	65	1972	Archives: Drawing 1/200 1000
66	66	1972	Archives: Drawing 1/200 1000
67	67	1972	Archives: Drawing 1/200 1000
68	68	1972	Archives: Drawing 1/200 1000
69	69	1972	Archives: Drawing 1/200 1000
70	70	1972	Archives: Drawing 1/200 1000
71	71	1972	Archives: Drawing 1/200 1000
72	72	1972	Archives: Drawing 1/200 1000
73	73	1972	Archives: Drawing 1/200 1000
74	74	1972	Archives: Drawing 1/200 1000
75	75	1972	Archives: Drawing 1/200 1000
76	76	1972	Archives: Drawing 1/200 1000
77	77	1972	Archives: Drawing 1/200 1000
78	78	1972	Archives: Drawing 1/200 1000
79	79	1972	Archives: Drawing 1/200 1000
80	80	1972	Archives: Drawing 1/200 1000
81	81	1972	Archives: Drawing 1/200 1000
82	82	1972	Archives: Drawing 1/200 1000
83	83	1972	Archives: Drawing 1/200 1000
84	84	1972	Archives: Drawing 1/200 1000
85	85	1972	Archives: Drawing 1/200 1000
86	86	1972	Archives: Drawing 1/200 1000
87	87	1972	Archives: Drawing 1/200 1000
88	88	1972	Archives: Drawing 1/200 1000
89	89	1972	Archives: Drawing 1/200 1000
90	90	1972	Archives: Drawing 1/200 1000
91	91	1972	Archives: Drawing 1/200 1000
92	92	1972	Archives: Drawing 1/200 1000
93	93	1972	Archives: Drawing 1/200 1000
94	94	1972	Archives: Drawing 1/200 1000
95	95	1972	Archives: Drawing 1/200 1000
96	96	1972	Archives: Drawing 1/200 1000
97	97	1972	Archives: Drawing 1/200 1000
98	98	1972	Archives: Drawing 1/200 1000
99	99	1972	Archives: Drawing 1/200 1000
100	100	1972	Archives: Drawing 1/200 1000
101	101	1972	Archives: Drawing 1/200 1000
102	102	1972	Archives: Drawing 1/200 1000
103	103	1972	Archives: Drawing 1/200 1000
104	104	1972	Archives: Drawing 1/200 1000
105	105	1972	Archives: Drawing 1/200 1000
106	106	1972	Archives: Drawing 1/200 1000
107	107	1972	Archives: Drawing 1/200 1000
108	108	1972	Archives: Drawing 1/200 1000
109	109	1972	Archives: Drawing 1/200 1000
110	110	1972	Archives: Drawing 1/200 1000
111	111	1972	Archives: Drawing 1/200 1000
112	112	1972	Archives: Drawing 1/200 1000
113	113	1972	Archives: Drawing 1/200 1000
114	114	1972	Archives: Drawing 1/200 1000
115	115	1972	Archives: Drawing 1/200 1000
116	116	1972	Archives: Drawing 1/200 1000
117	117	1972	Archives: Drawing 1/200 1000
118	118	1972	Archives: Drawing 1/200 1000
119	119	1972	Archives: Drawing 1/200 1000
120	120	1972	Archives: Drawing 1/200 1000
121	121	1972	Archives: Drawing 1/200 1000
122	122	1972	Archives: Drawing 1/200 1000
123	123	1972	Archives: Drawing 1/200 1000
124	124	1972	Archives: Drawing 1/200 1000
125	125	1972	Archives: Drawing 1/200 1000
126	126	1972	Archives: Drawing 1/200 1000
127	127	1972	Archives: Drawing 1/200 1000
128	128	1972	Archives: Drawing 1/200 10

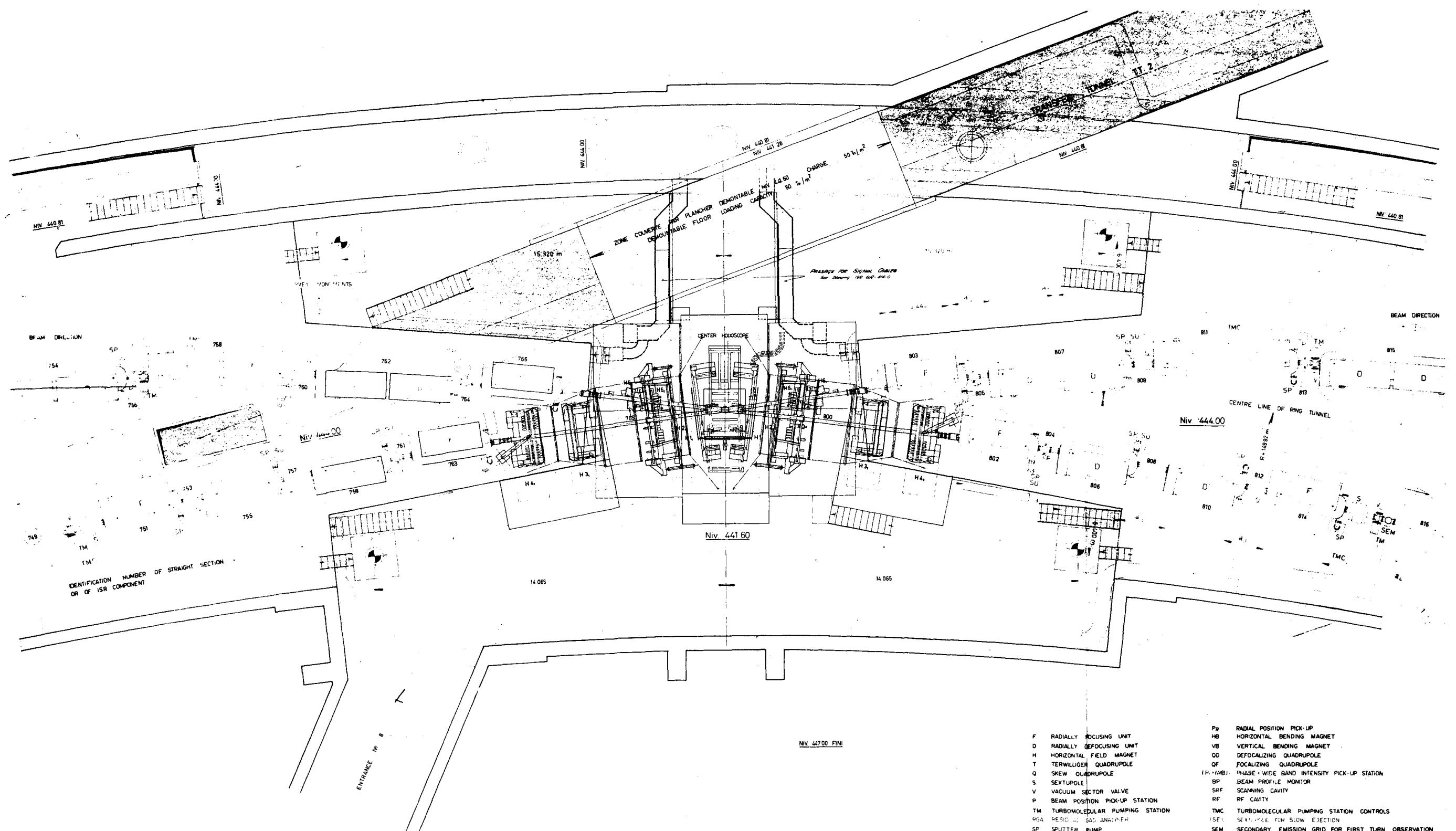


Average machine radius = 150.0253 m.
 Maximum radius = 154.3081 m.
 Minimum radius = 145.5134 m.
 Intersecting radius = 148.6151 m.

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

FOR OTHERIEWS SEE DRAWINGS No.
 SECTIONAL VIEW TRANSVERSAL
 SECTIONAL VIEW LONGITUDINAL

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	82
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	----



AVERAGE RADIUS	= 160.0251
MAXIMUM RADIUS	= 164.3081
MINIMUM RADIUS	= 145.5134
MAXIMUM CAPACITY	= 148.6151

ℓ_0	=	1.630 m
ℓ_1	=	0.150 m
ℓ_2	=	16.783 m
ℓ_3	=	2.000 m
ℓ_4	=	13.0042 m
ℓ_5	=	6.9608 m
ℓ_6	=	9.8243 m

PR	RADIAL POSITION PICK-UP
HB	HORIZONTAL BENDING MAGNET
VB	VERTICAL BENDING MAGNET
DD	DEFOCALIZING QUADRUPOLE
OF	FOCALIZING QUADRUPOLE
(WIB)	PHASE + WIDE BAND INTENSITY PICK-UP STATION
BP	BEAM PROFILE MONITOR
SRF	SCANNING CAVITY
RF	RF CAVITY
TMC	TURBO MOLECULAR PUMPING STATION CONTROLS
SFI	SEXY WAVE FORM SLOW EJECTION
SEM	SECONDARY EMISSION GRID FOR FIRST TURN OBSERVATION
TM	DAMPING MAGNET
SPB	SECONDARY EMISSION PROBE SCANNER
SB	SMALL SPITTER PUMP

FOR OTHER VIEWS SEE DRAWINGS NO
SECTIONAL VIEW TRANSVERSAL
SECTIONAL VIEW LONGITUDINAL
EDITION OCTOBER 1972

EDITION OCTOBER 1972