ENTRY NO. CU6 Date June 19, 1992

Name of Machine CGR-MeV 930S

Institution NORDION EUROPE S.A.

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In Charge: C. PIRART Reported by: C. PIRART

HISTORY

MILESTONE DATES:

Design 1980 Model Tests

Construction 1981-1983 First Beam 1983

DESIGN/CONSTRUCTION BY:

in house other

COST: Accelerator 6 M US$ Facility 12 M US$

FUNDED BY:

STATUS

STAFF: Machine

Scientists Engineers

Technicians 5 Students

Research (in house/external)

Scientists / Engineers /

Technicians / Students /

BUDGET: Machine Funded by

Research Funded by

TIME DISTRIBUTION:

Basic Research (in house/external) % /

Applied Program (in house/external) 100 % / %

Development % Maintenance %

MAGNET

POLE PARAMETERS:

Diameter 215.6 cm $R_{extract}$ 92.4 cm R_{inject} cm

HILL PARAMETERS: Gap (min) 16.6 cm B_{max} 2.15 T

(Q AT) Gap (max) 40.5 cm B_{min} 1.15 T

VALLEY PARAMETERS: Gap (min) cm B_{max} T

(Q AT) Gap (max) cm B_{min} T

AVERAGE FIELD: $< B >_{min}$ T $< B >_{max}$ T

NUMBER OF SECTORS: compact/separated 4 /

sector angle deg. spiral (max) 53 deg.

FIELD TRIMMING: Trim Coils 12 pairs

Harmonic Coils centering 4 pairs Ext. 4 pairs

Other 5

CURRENT: Main Coils 1100 Amps Stability 10-5

Trim Coils 300 Amps Stability 10-3

Stored Energy (cryogenic) MJ

WEIGHT: Iron 200 T Conductor Cu

ION ENERGY: Bending Limit E/A = 110 q^2/A^2 MeV/u

Focussing Limit E/A = 80 q/A MeV/u

ACCELERATION SYSTEM

FUNDAMENTAL ACCELERATION:

Description:

No. of Gaps/turn 4 dE/dn(max) 0.15 MeV/q

Voltage(max) 0.05 MV Harmonic f_{rf}/f_{ion} 1 , II

Freq 10.6-23 MHz Power in(max) 0.14 MW

Stability: Phase 0.1° Voltage < 10-3

OTHER CAVITIES (Flattopping or otherwise):

Description:

Region of Influence: R_{min} cm R_{max} cm

No. of Gaps/turn dE/dn(max) MeV/q

Voltage(max) MV Harmonic f_{rf}/f_{ion}

Freq MHz Power in(max) MW

Stability: Phase Voltage

VACUUM SYSTEM

OPERATING PRESSURE: 2.10-6

PUMPS: No. and type 2 x OIL DIF. 12000 l/s

ION SOURCE(S)

	Type	Intensity (mA)	Q	$\epsilon_n = \beta\gamma\epsilon$ (πmm mrad)	Ion Species
(a)	LIV-JONES				$p, d, \alpha, \ldots$
(b)					
(c)					
(d)					

INJECTION SYSTEM

Efficiency %

EXTRACTION SYSTEM

DC electrost. + act. magn. channel Efficiency 60 %

CHARACTERISTIC BEAMS

	Accelerated Ions	E/A (MeV/u)	Current(part μA) Internal	External
(a)	P	80	700	50
(b)				
(c)				
(d)				

	Secondary Particles	E (MeV)	part/sec
(a)			
(b)			
(c)			

EXTRACTED BEAM PROPERTIES:

For μA of MeV/u ions

$\Delta E/E$ % $\Delta\phi$ °rf

$\epsilon_n = \beta\gamma\epsilon$ x πmm mrad z πmm mrad

FACILITIES FOR RESEARCH

SHIELDED AREA: Fixed m^2 Moveable 1 m^2

Target Stations: 4 No. Served At Same Time: 1

MAGNETIC SPECTROMETERS:

OTHER FACILITIES:

REFERENCES/NOTES

(a)

(b)

PLAN VIEW OF FACILITY, COMMENTS