ENTRY NO: C11
Date: 07 Feb 2005 11:59:30
Machine Name: SSC1
Institution: GANIL
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Person in Charge of Cyclotron: Eric Petit
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History
Designed by: in house
Construction Dates: 1976-1982
First Beam Date: nov 82
Characteristic Beams
ions / energy(MeV/N)/current(pps)/power(w)

C12	13.7 (MeV/n)	2E13 (pps)	500 (w)
U238	5.5 (MeV/n)	5E10 (pps)	<1 (w)

Transmission Efficiency (source to extracted beam)
Typical (%): 90
Best (%): 98
Emittance
Emittance Definition: 90%
Vertical (pi mm mrad): 7
Horizontal (pi mm mrad): 7
Longitudinal (dE/E[%] x RF[deg.]): 0.2*4
USES
Basic Research (%):
Development (%):
Therapy (%):
Isotope Production (%):
Other Application (%):
Maintenance (%):
Beam Tuning (%):
Total Time (h/year):

TECHNICAL DATA
(a)Magnet
Type: separeted sectors
Kb (MeV): 380
Kf (MeV): 380
Average Field (min./max. T): 0.95/0.39
Number of Sectors: 4
Hill Angular Width (deg.): 52
Spiral (deg.):
Pole Diameter (m): 6
Injection Radius (m): 0.81
Extraction Radius (m): 3
Hill Gap (m): 0.01
Valley Gap (m):
Trim Coils
Number: 13x2
Maximum Current (A-turns):
Harmonic Coils
Number: 1xNsectorsx2
Maximum Current (A-turns):
Main Coils
Number: 4x2
Total Ampere Turns:
Maximum Current (A):
Stored Energy (MJ):
Total Iron Weight (tons): 1700
Total Coil Weight (tons): 14
Power
Main Coils (total KW): 950
Trim Coils (total, maximum, KW): 140
Refrigerator (cryogenic, KW):

(b)RF
Acceleration
Frequency Range (MHz): 7 -13.45
Harmonic Modes: 5
Number of Dees: 2
Number of Cavities:
Dee Angular Width (deg.):34
Voltage
At Injection (peak to ground, KV): 160
At Extraction (peak to ground, KV):
Peak (peak to ground, KV):
Line Power (max, KW): 100
Phase Stability (deg.): 0.1
Voltage Stability (%): 0.01

(c)Injection
Ion Source:
Source Bias Voltage (kV):
External Injection: radial
Buncher Type: harmonic 1
Injection Energy (MeV/n): 1
Component: 4 mag. chan.,1 inflector
Injection Efficiency (%): 100
Injector: C01 or C02

(d)Extraction
Elements, Characteristic:
1 electrostatic deflector, 4 magnetic channels
Typical Efficiency (%): 90
Best Efficiency (%): 98

(e)Vacuum
Pumps: 8 cryopumps and 4 turopumps
Achieved Vacuum (Pa): 6 10-6

REFERENCES

EXPERIMENTAL FACILITIES
Injector of SSC2
Medium Energy room (SME)

COMMENTS