

ENTRY NO: C-9
Machine Name: C02
Date: 5/31/01 10:09:05 AM
Institution: GANIL
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HISTORY

Designed By: in house
Construction Dates: 1976-1980
First Beam Date: 1980

CHARACTERISTIC BEAMS

ions	/ energy(MeV/N)	/current(pps)	/power(w)
C12	1	5 10+13	0.5
U238	0.3	1 10+11	<1

transmission efficiency(source to extract beam)

typical: 20% - best: 30%

transverse emittance

emittance definition: 90

vertical: 40π mm mrad

horizontal: 40π mm mrad

longitudinal: $0.5 * 6(\Delta) E/E \% \times \text{deg RF}$

USES

basic research: %	therapy: 0%
development: %	isotope production: 0%
other: 0%	maintenance: %
beam tuning: %	Total Time: h/year

TECHNICAL DATA

a) magnet: type: compact
Kb: 28MeV/A Kf: 28MeV/A
average field (min/max): 1.565/1.0 T
number of magnet sectors: 1
hill angular width: hill angular width
spiral (max): deg
pole parameters
diameter: m
injection radius: 0.036 m
extraction radius: 0.488 m
hill gap: 0.021m valley gap: m
trim coils
-number: 6x2
-current(max): A-turns
harmonic coils
-number: xNsectorsx2
-current(max): A-turns
main coils
number: 1x2
total ampere-turns: A-turns
current: A
stored energy: MJ
weight - iron: t coils: t
power
main coils (total): 500 kW
trim coils (total max): kW
refrigerator (cryogenic): kW
b) RF
acceleration
frequency range: 7 to 14MHz

harmonic modes: 3
number of dees: 1
number of cavities:
dee angular width: 180degrees
voltage
at injection: 50 to 90kV(peak to ground, max)
at extraction: kV(peak to ground, max)
peak: kV(peak to ground, max)
line power(max): kW
stability
phase: 0.1 deg
voltage: 0.01%
injection
c) ion source: ECR4M
external injection: axial
components: 1 Miller inflector
source bias voltage: 25kV
injection energy: <0.0054MeV/N
buncher: two-harmonic
injection efficiency: 25%
d) injector:
e) extraction
1 electrostatic deflector 1 electrostatic quadrupole
efficiency
typical: 90%
best: 100%
f) vacuum
pumps: cryopumps
achieved vacuum: 5 10-6Pa
REFERENCES
EXPERIMENTAL FACILITIES
injector of ssc1 IRRSUD
COMMENTS