

ENTRY NO: C-8
Machine Name: C01
Date: 5/31/01 9:54:54 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	1.E14	1
Ar36	1	1.E14	1
U238	0.3	1.E11	<1

transmission efficiency(source to extract beam)

typical: 50% - **best:** 65%

tranverse 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: 65% **therapy:** 0%
development: 10% **isotope production:** 0%
other: 0% **maintenance:** 10%
beam tuning: 15% **Total Time:** 3000h/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: 0.076 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: 1
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): 30kW
stability
phase: 0.1 deg
voltage: 0.01%
injection
c)ion source: ECR4
external injection: axial
components: spiral inflector
source bias voltage: 90kV
injection energy: <0.024MeV/N
buncher: two-harmonic buncher
injection efficiency: 65%
d)injector:
e)extraction
1 electrostaic deflector 1 electrostatic quadrupole
efficiency
typical: 90%
best: 100%
f)vacuum
pumps: 3 cryopumps
achieved vacuum: 5 10-6Pa
REFERENCES
EXPERIMENTAL FACILITIES
Injector of SSC1 IRRSUD
COMMENTS