ENTRY NO: CM-3
Machine Name: C235
Date: 9/7/01 12:35:47 PM
Institution: Ion Beam Applications
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HISTORY
Designed By: IBA and SHI
Construction Dates:
First Beam Date:
CHARACTERISTIC BEAMS

ions	/ **energy**(MeV/N)/**curre**nt(pps)/**powe**r(w)
p	232 2.e12

transmision efficiency(source to extract beam)
typical: % - **best:** %
tranverse emmitance
emmitance definition: RMS
vertical: 2.π mm mrad
horizontal: 5.π mm mrad
longitudinal: 30(Δ) E/E)%xdeg RF

USES
basic research: % **therapy:** 100%
development: % **isotope production:** %
other: % **maintenance:** %
beam tuning: % **Total Time:** h/year

TECHNICAL DATA
a)magnet: **type:** compact
Kb: 235MeV/A **Kf:** 232MeV/A
average field (min/max): 2.15/1.7 T
number of magnet sectors: 4
hill angular width: 54hill angular width
spiral (max): 60 deg
pole parameters
diameter: 2.24 m
injection radius: 0 m
extraction radius: 1.08 m
hill gap: 0.096/0.009m **valley gap:** 0.6m
trim coils
-number: 0x2
-current(max): A-turns
harmonic coils
-number: 1xNsectorsx2
-current(max): 500 A-turns
main coils
number: 1x2
total ampere-turns: 523720 A-turns
current: 800 A
stored energy: MJ
weight - iron: 210t coils: 20t
power
main coils (total): 185 kW
trim coils (total max): kW
refrigerator (cryogenic): kW
b)RF
acceleration
frequency range: 106MHz
harmonic modes: 4
number of dees: 2
number of cavities: 2
dee angular width: 30degrees
voltage
at injection: 55kV(peak to ground, max)
at extraction: 150kV(peak to ground, max)
peak: 150kV(peak to ground, max)
line power(max): 100kW
stability
phase: deg
voltage: 5.e-4%
injection
c)ion source: PIG
external injection: NA
components:
source bias voltage: kV
injection energy: MeV/N
buncher:
injection efficiency: %
d)injector: NA
e)extraction
Electrostatic septum, 16 MV/m Passive gradient corrector Permanent magnet quadrupole doublet
efficiency
typical: 60%
best: %
f)vacuum
pumps: Oil diffusion
achieved vacuum: 1.e-3Pa
REFERENCES

EXPERIMENTAL FACILITIES

COMMENTS