ENTRY NO: CM-5
Machine Name: HM12
Date: 5/31/01 1:08:28 AM
Institution: Sumitomo Heavy Industries, Ltd.
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HISTORY
Designed By:
Construction Dates: 1993
First Beam Date: 1996
CHARACTERISTIC BEAMS

ions	/ **energy**(MeV/N)/**curre**nt(pps)/**powe**r(w)	
H-	12	60micro-ampere
D-	6	30micro-ampere

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

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

TECHNICAL DATA
a)magnet: **type:** compact
Kb: MeV/A **Kf:** MeV/A
average field (min/max): 1.5 T
number of magnet sectors: 4
hill angular width: 54hill angular width
spiral (max): 0 deg
pole parameters
diameter: 0.8 m
injection radius: m
extraction radius: 0.34 m
hill gap: 0.036m **valley gap:** 0.095m
trim coils
-number: 2x2
-current(max): A-turns
harmonic coils
-number: 0xNsectorsx2
-current(max): A-turns
main coils
number: 1x2
total ampere-turns: 72000 A-turns
current: 180 A
stored energy: MJ
weight - iron: 14t coils: 0.6t
power
main coils (total): kW
trim coils (total max): kW
refrigerator (cryogenic): kW
b)RF
acceleration
frequency range: 45MHz
harmonic modes: 2(H-)/4(D-)
number of dees: 2
number of cavities: 2
dee angular width: 45degrees
voltage
at injection: 34kV(peak to ground, max)
at extraction: 34kV(peak to ground, max)
peak: 34kV(peak to ground, max)
line power(max): kW
stability
phase: deg
voltage: %
injection
c)ion source: PIG
external injection:
components:
source bias voltage: kV
injection energy: MeV/N
buncher:
injection efficiency: %
d)injector:
e)extraction
Stripping (carbon foil)
efficiency
typical: 100%
best: %
f)vacuum
pumps: 2 sets of diffusion pumps
achieved vacuum: 2*10-5Pa
REFERENCES

EXPERIMENTAL FACILITIES

COMMENTS