

ENTRY NO. CU124 Date 25-AUG-92
 Name of Machine JSW 1710 (Japan Steel Works)
 Institution Brookhaven National Laboratory
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HISTORY
 MILESTONE DATES:
 Design 1981 Model Tests 1981
 Construction 1981 First Beam 1982
 DESIGN/CONSTRUCTION BY:
 in house other Japan Steel Works
 COST: Accelerator \$60,000 Facility \$1,100,000
 FUNDED BY: DOE

STATUS
 STAFF: Machine
 Scientists 1 Engineers
 Technicians 2 Students
 Research (in house/external)
 Scientists / Engineers /
 Technicians / Students /
 BUDGET: Machine Funded by
 Research Funded by
 TIME DISTRIBUTION:
 Basic Research (in house/external) 100 % / 0 %
 Applied Program (in house/external) 100 % / 0 %
 Development % Maintenance %

MAGNET
 POLE PARAMETERS:
 Diameter 105 cm R_{extract} 42 cm R_{inject} 0 cm
 HILL PARAMETERS: Gap (min) cm B_{max} T
 (0 AT) Gap (max) cm B_{min} T
 VALLEY PARAMETERS: Gap (min) cm B_{max} T
 (0 AT) Gap (max) cm B_{min} T
 AVERAGE FIELD: < B >_{min} T < B >_{max} T
 NUMBER OF SECTORS: compact/separated 4 / 0
 sector angle deg. spiral (max) deg.
 FIELD TRIMMING: Trim Coils 3
 Harmonic Coils
 Other
 CURRENT: Main Coils Amps Stability
 Trim Coils Amps Stability
 Stored Energy (cryogenic) MJ
 WEIGHT: Iron 35 Tons Conductor Cu hollow
 ION ENERGY: Bending Limit E/A = q²/A² MeV/u
 Focussing Limit E/A = q/A MeV/u

ACCELERATION SYSTEM
 FUNDAMENTAL ACCELERATION:
 Description: 2 Dees @ 45°
 No. of Gaps/turn dE/dn(max) 0.180 MeV/q
 Voltage(max) MV Harmonic f_{rf}/f_{ion}
 Freq 43.5 - 47 MHz Power in(max) MW
 Stability: Phase Voltage
 OTHER CAVITIES (Flattopping or otherwise):
 Description:
 Region of Influence: R_{min} cm R_{max} cm
 No. of Gaps/turn dE/dn(max) MeV/q
 Voltage(max) MV Harmonic f_{rf}/f_{ion}
 Freq MHz Power in(max) MW
 Stability: Phase Voltage

VACUUM SYSTEM
 OPERATING PRESSURE: 5 x 10⁻⁶
 PUMPS: No. and type Diffusion 8"

ION SOURCE(S)
 Type Intensity (mA) $\epsilon_n = \beta\gamma\epsilon$ (mm mrad) Ion Species
 (a)
 (b)
 (c)
 (d)

INJECTION SYSTEM
 Hot Cathode Axial Source Efficiency %

EXTRACTION SYSTEM
 Electrostatic Efficiency 40 %

CHARACTERISTIC BEAMS
 Accelerated Ions E/A (MeV/u) Current(part μ A) Internal External
 (a) H⁺ 17 60 40
 (b) D⁺ 10 50 30
 (c)
 (d)
 Secondary Particles E (MeV) part/sec
 (a)
 (b)
 (c)

EXTRACTED BEAM PROPERTIES:
 For μ A of MeV/u ions
 $\Delta E/E$ % $\Delta\phi$ °rf
 $\epsilon_n = \beta\gamma\epsilon$ x π mm mrad z π mm mrad

FACILITIES FOR RESEARCH
 SHIELDED AREA: Fixed 60 m² Moveable 0 m²
 Target Stations: 1 No. Served At Same Time: 1
 MAGNETIC SPECTROMETERS:
 OTHER FACILITIES:

REFERENCES/NOTES
 (a)
 (b)

PLAN VIEW OF FACILITY, COMMENTS