

ENTRY No. 50

NAME OF MACHINE C - 200 DATE JULY 7, 1981
INSTITUTION HEAVY ION LABORATORY AT THE WARSOV UNIVERSITY
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IN CHARGE REPORTED BY

HISTORY AND STATUS

DESIGN, date 1978 Model tests
ENG DESIGN, date
CONSTRUCTION, date
FIRST BEAM, date (or goal)
MAJOR ALTERATIONS

COST, ACCELERATOR
COST, FACILITY, total
FUNDED BY

ACCELERATOR STAFF, OPERATION AND DEVELOPMENT

SCIENTISTS 4 ENGINEERS 8
TECHNICIANS 9 CRAFTS 5

GRAD STUDENTS involved during year
OPERATED BY Research staff or Operators
OPERATION hr/wk, On target hr/wk
TIME DISTR. in house %, Outside %
BUDGET, op & dev
FUNDED BY

RESEARCH STAFF, not included above
USERS, in house outside
GRAD STUDENTS involved during year
RESEARCH BUDGET, in house
FUNDED BY

MAGNET

POLE FACE, diameter (compact) 29.9 cm, R extraction .85 cm
R injection cm
GAP, min 2.64 cm, Field 27 kG
max 1.5 cm, Field 17 kG } at
AVERAGE FIELD at R ext 21.4 kG } Ampere turns
B max/ <B> 1.26
NUMBER OF SECTORS { compact 4 } Spiral, max 0 deg
{ separated }
SECTOR ANGLE (SSC) 42 deg
TRIMMING COILS 10 + 2 harm. pairs

CONDUCTOR, material and type Cu, 24x24 mm^2, hole Ø 16
STORED ENERGY (cryogenic) MJ
POWER: main coils 325 max, kW; current stability 1/10^4
trimming coils .45 max, kW; current stability 4/10^4
WEIGHT: Fe .240 tons; coils .30 tons
COOLING system demineralized water
ION ENERGY (bending limit) E/A = .160 q^2/a^2 MeV/amu
(focusing limit) E/A = .36 q/a MeV/amu

ACCELERATION SYSTEM

DEES, number 2; angle 45 deg
BEAM APERTURE 2.4 cm; DC Bias kV
TUNED by, coarse panel fine trimmer
RF 12 to 23 MHz, stable ± 1/10^7
Orb F 4 to 23 MHz
HARMONICS, RF/Orb F, used 2, 3, 1
DEE - Gnd, max .75 kV, min gap 2 cm
STABILITY, (pk-pk noise)/(pk RF volt) 1/10^3
ENERGY GAIN, max 270 kV/turn
RF PHASE, stable to ± 1 deg
RF POWER input, max 2 x 120 kW
FREQUENCY MODULATION, rate /s
modulator, type
beam pulse, width

VACUUM SYSTEM

OPERATING PRESSURE 1 x 10^-6 Torr or mbar
PUMPS, No, Type, Size 4 oil dif. pumps
1700 l/s each, liquid nitrogen traps

ION SOURCES

PIG hot cathode

INJECTION SYSTEM

EXTRACTION SYSTEM

stripping + magnetic channel or electrostatic defl.

FACILITIES FOR RESEARCH

SHIELDED AREA, fixed 30 m^2; movable 1300 m^2
TARGET STATIONS 7 in 7 rooms
STATIONS served at same time, max 1
MAG SPECTROGRAPH, type
COMPUTER model
OTHER FACILITIES energy monochromatization
by 2 x 120 deg magnets

CHARACTERISTIC BEAMS

Table with columns: PARTICLE, ENERGY (MeV) Goal, Achieved, CURRENT (pμA) Internal, External. Rows include protons, 12C+3, 40Ar+8.

SECONDARY

(part/s)

BEAM PROPERTIES

MEASURED CONDITIONS
PULSE WIDTH RF deg pμ A of MeV ions
PHASE EXC, max RF deg pμ A of MeV ions
EXTRACT eff % pμ A of MeV ions
RESOL ΔE/E % pμ A of MeV ions
EMITTANCE
(π mm. mrad) { axial } pμA of MeV ions
{ rad }

OPERATING PROGRAMS, time distribution

BASIC NUCLEAR PHYSICS SOLID STATES PHYSICS
BIOMEDICAL APPLICAT. ISOTOPE PRODUCTIONS

REFERENCES/NOTES

PLAN VIEW OF FACILITY, NOTEWORTHY FEATURES, COMMENTS