

ENTRY No. 126

NAME OF MACHINE U-200 DATE
INSTITUTION Joint Institute for Nuclear Research
ADDRESS Dubna, USSR
TEL TELEX MSK DUBNA 4 12621
IN CHARGE G. N. Flerov REPORTED BY

HISTORY AND STATUS

DESIGN, date 1966 Model tests
ENG DESIGN, date 1966-67
CONSTRUCTION, date 1966-67
FIRST BEAM, date (or goal) 1968
MAJOR ALTERATIONS

COST, ACCELERATOR
COST, FACILITY, total
FUNDED BY

ACCELERATOR STAFF, OPERATION AND DEVELOPMENT
SCIENTISTS ENGINEERS
TECHNICIANS CRAFTS

GRAD STUDENTS involved during year
OPERATED BY Research staff or Operators
OPERATION 30 hr/wk, On target 25 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) 200 cm, R extraction .86. cm

R injection cm
GAP, min 3 cm, Field 26 kG }
max 15 cm, Field 24 kG } at 0.59×10^6 .

AVERAGE FIELD at R ext 20 kG } Ampere turns
B max/ 1.3

NUMBER OF SECTORS { compact 4 } Spiral, max deg
{ separated }

SECTOR ANGLE (SSC) deg

TRIMMING COILS 7 circular

CONDUCTOR, material and type Cu
STORED ENERGY (cryogenic) MJ

POWER: main coils .350. max, kW ; current stability 10^{-4} ..
trimming coils .20. max, kW ; current stability 10^{-3} ..

WEIGHT: Fe 220. tons ; coils 11.5 tons
COOLING system Demineralized water

ION ENERGY (bending limit) E/A = 145. q²/a² MeV/amu
(focusing limit) E/A = 20. q²/a² MeV/amu

ACCELERATION SYSTEM

DEES, number 2, 420 ; angle deg

BEAM APERTURE 2.5 cm ; DC Bias 0 kV

TUNED by, coarse MS fine VC

RF 12 to 21.5 MHz, stable $\pm 10^{-5}$..
Orb F 3 to 10.7 MHz

HARMONICS, RF/Orb F, used 2, 3

DEE - Gnd, max 75. kV, min gap 4 cm

STABILITY, (pk-pk noise)/(pk RF volt) 10^{-2}

ENERGY GAIN, max 275 kV/turn

RF PHASE, stable to \pm 4 deg

RF POWER input, max 50 kW

FREQUENCY MODULATION, rate /s
modulator, type

beam pulse, width

VACUUM SYSTEM

OPERATING PRESSURE 2×10^{-6} Torr or mbar

PUMPS, No, Type, Size 2 oil diffusion pumps

..... 4000 l. s. each

ION SOURCES

..... Arc type with heated cathode

INJECTION SYSTEM

EXTRACTION SYSTEM

..... Stripping + magnetic channel

FACILITIES FOR RESEARCH

SHIELDED AREA, fixed 225 m² ; movable m²

TARGET STATIONS 4 in 2 rooms

STATIONS served at same time, max 1

MAG SPECTROGRAPH, type

COMPUTER model

OTHER FACILITIES

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