ENTRY No. C39

NAME OF MACHINE AGOR DATE June 1989

INSTITUTION Institut de Physique Nucléaire - Kernfysisch Versneller Instituut

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IN CHARGE S. Gales REPORTED BY H.W. Schreuder

HISTORY AND STATUS

DESIGN, date 1986 ..... Model tests .....

ENG DESIGN, date 1989 .....

CONSTRUCTION, date 1988-1992 .....

FIRST BEAM, date (or goal) 1992 .....

MAJOR ALTERATIONS .....

.....

COST, ACCELERATOR Mfl 33 .....

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 ..... 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) 188 cm, R extraction 91 cm

R injection 1,3-1,7 cm

GAP, min 7 cm, Field ..... kG
max ..... cm, Field ..... kG } at .....

AVERAGE FIELD at R ext 17-41 ..... kG } Ampere turns

B max/ <B> .....

NUMBER OF SECTORS { compact 3 / separated - } Spiral, max .. deg

SECTOR ANGLE (SSC) ..... deg

TRIMMING COILS 15

.....

CONDUCTOR, material and type NbTi .....

STORED ENERGY (cryogenic) 57 ..... MJ

POWER : main coils ..... max, kW ; current stability .....
trimming coils 30 max, kW ; current stability .....

WEIGHT : Fe 320 ..... tons ; coils ..... tons

COOLING system .....

ION ENERGY (bending limit) E/A = 600 q^2/a^2 MeV/amu
(focusing limit) E/A = 200 q^2/a^2 MeV/amu

ACCELERATION SYSTEM

DEES, number 3 ; ~~xxxxx~~ in valleys ~~xxx~~

BEAM APERTURE 1,8 cm ; DC Bias ----- kV

TUNED by, coarse short fine short

RF 24 to 63 MHz, stable ± .....

Orb F 6 to 63 MHz

HARMONICS, RF/Orb F, used 2,3,4 .....

DEE - Gnd, max 110 kV, min gap ..... cm

STABILITY, (pk-pk noise)/(pk RF volt) 10^{-4} .....

ENERGY GAIN, max 300 ..... kV/turn

RF PHASE, stable to ± 0,2 ..... deg

RF POWER input, max 3*70 ..... kW

FREQUENCY MODULATION, rate ..... /s

modulator, type .....

beam pulse, width .....

VACUUM SYSTEM

OPERATING PRESSURE $< 10^{-7}$ ..... Torr or mbar

PUMPS, No, Type, Size 3 cryopumps .....
2 turbopumps .....

.....

ION SOURCES multicusp, ecr, polarized (all external)

.....

INJECTION SYSTEM

axial

.....

EXTRACTION SYSTEM

1.electrostatic, 2.electromagnetic .....

FACILITIES FOR RESEARCH

SHIELDED AREA, fixed ..... m² ; movable ..... m²

TARGET STATIONS ..... in ..... rooms

STATIONS served at same time, max .....

MAG SPECTROGRAPH, type .....

COMPUTER model .....

OTHER FACILITIES .....

.....

.....

CHARACTERISTIC BEAMS

PARTICLE	ENERGY (MeV) Goal	Achieved	CURRENT (pμA) Internal	External
p	120-200			
α	120-380			
q/A=0,3	10- 50 MeV/A			
q/A=0,14	6- 10 "			
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 / ... rad } ..... pμA of ..... MeV ... ions

OPERATING PROGRAMS, time distribution

BASIC NUCLEAR PHYSICS .. SOLID STATES PHYSICS ....

BIOMEDICAL APPLICAT. .... ISOTOPE PRODUCTIONS ....

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REFERENCES/NOTES

PLAN VIEW OF FACILITY, NOTEWORTHY FEATURES, COMMENTS