ENTRY NO. C13 Date *October 1995*
Name of Machine *C01 and C02 of GANIL*
Institution *GANIL*
Address *BP 5027 14021 CAEN CEDEX FRANCE*
Tel *31 45 46 47* Telex Fax *31 45 46 65* E-MAIL
In Charge: *F. LOYER* Reported by:

HISTORY *See entry "SSC of GANIL"*
MILESTONE DATES:
Design *1973-76* Model Tests *1976*
Construction *1976-82* First Beam *Nov. 1982*
DESIGN/CONSTRUCTION BY:
in house other
COST: Accelerator *400 MFF(1986)* Facility *750 MFF (1986)*
FUNDED BY:

STATUS *See entry "SSC of GANIL"*
STAFF: Machine *(accelerator and experiment area)*
Scientists Engineers *70*
Technicians *120* Students
Research (in house/external)
Scientists *22* / *400* Engineers /
Technicians / Students *15* /
BUDGET: Machine *50 MFF (1995)* Funded by *CEA-CNRS*
Research Funded by
TIME DISTRIBUTION:
Basic Research (in house/external) *72* % / %
Applied Program (in house/external) *3* % / %
Maintenance *3 months* Development *5* %
Tuning 20 %

MAGNET
POLE PARAMETERS: *C01 241 cm*
Diameter *131.6* cm $R_{extract}$ *48.8* cm R_{inject} *C02 364* cm
HILL PARAMETERS: Gap (min) *21* cm B_{max} T
(@ AT) Gap (max) cm B_{min} T
VALLEY PARAMETERS: Gap (min) cm B_{max} T
(@ AT) Gap (max) cm B_{min} T
AVERAGE FIELD: $<B>_{min}$ *1* T $<B>_{max}$ *1.565* T
NUMBER OF SECTORS: compact/separated /
sector angle deg. spiral (max) deg.
FIELD TRIMMING: Trim Coils *6 (circular)*
Harmonic Coils
Other
CURRENT: Main Coils *1500* Amps Stability 10^{-5}
Trim Coils *500* Amps Stability 10^{-4}
Stored Energy (cryogenic) MJ
WEIGHT: Iron Conductor
ION ENERGY: Bending Limit E/A = *28* q^2/A^2 MeV/u
Focusing Limit E/A = q/A MeV/u

ACCELERATION SYSTEM
FUNDAMENTAL ACCELERATION:
Description: *180°, D resonator, movable panels*
No. of Gaps/turn *2* dE/dn(max) *0..18* MeV/q
Voltage (max) *0.09* MV Harmonic f_{rf}/f_{ion} *3*
Freq *7 to 14* MHz Power in(max) MW
Stability: Phase *±0.1°* Voltage 10^{-4}
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: *7.10⁻⁶ Pa*
PUMPS: (No. and type) *3 cryo (20 000 l/s)*

ION SOURCE(S)

	Type	Intensity (mA)	@ $\varepsilon_n = \beta\gamma\varepsilon$ (π mm mrad)	Ion Species
(a)	*ECR4 (14.5 GHz)*			*any Ions*
(b)	*extraction voltage*		*100 kV(C01)*	
(c)			*20 kV(C02)*	
(d)				

INJECTION SYSTEM
C01 : spiral inflector Efficiency *up to 65* %
C02 : Muller inflector *up to 25* %
EXTRACTION SYSTEM
electrostatic deflector Efficiency *100* %

CHARACTERISTIC BEAMS

	Accelerated Ions	E/A (MeV/u)	Current (part μA) Internal	External
(a)	Ne^{+6}	1		
(b)	U^{+24}	0.3		
(c)	*(depends on ions and final energy of SSC2)*			
(d)				

	Secondary Particles	E (MeV)	part/sec
(a)			
(b)			
(c)			

EXTRACTED BEAM PROPERTIES:
For μA of MeV/u ions
ΔE/E *0.5 to 1.5* % Δφ *12* °rf
$\varepsilon_n = \beta\gamma\varepsilon$ x *30 to 45* π mm mrad z *45* π mm mrad

FACILITIES FOR RESEARCH
SHIELDED AREA: Fixed: m^2 Moveable m^2
Target Stations: No. Served At Same Time:
MAGNETIC SPECTROMETERS:
OTHER FACILITIES:

REFERENCES/NOTES
(a)
(b)

PLAN VIEW OF FACILITY, COMMENTS