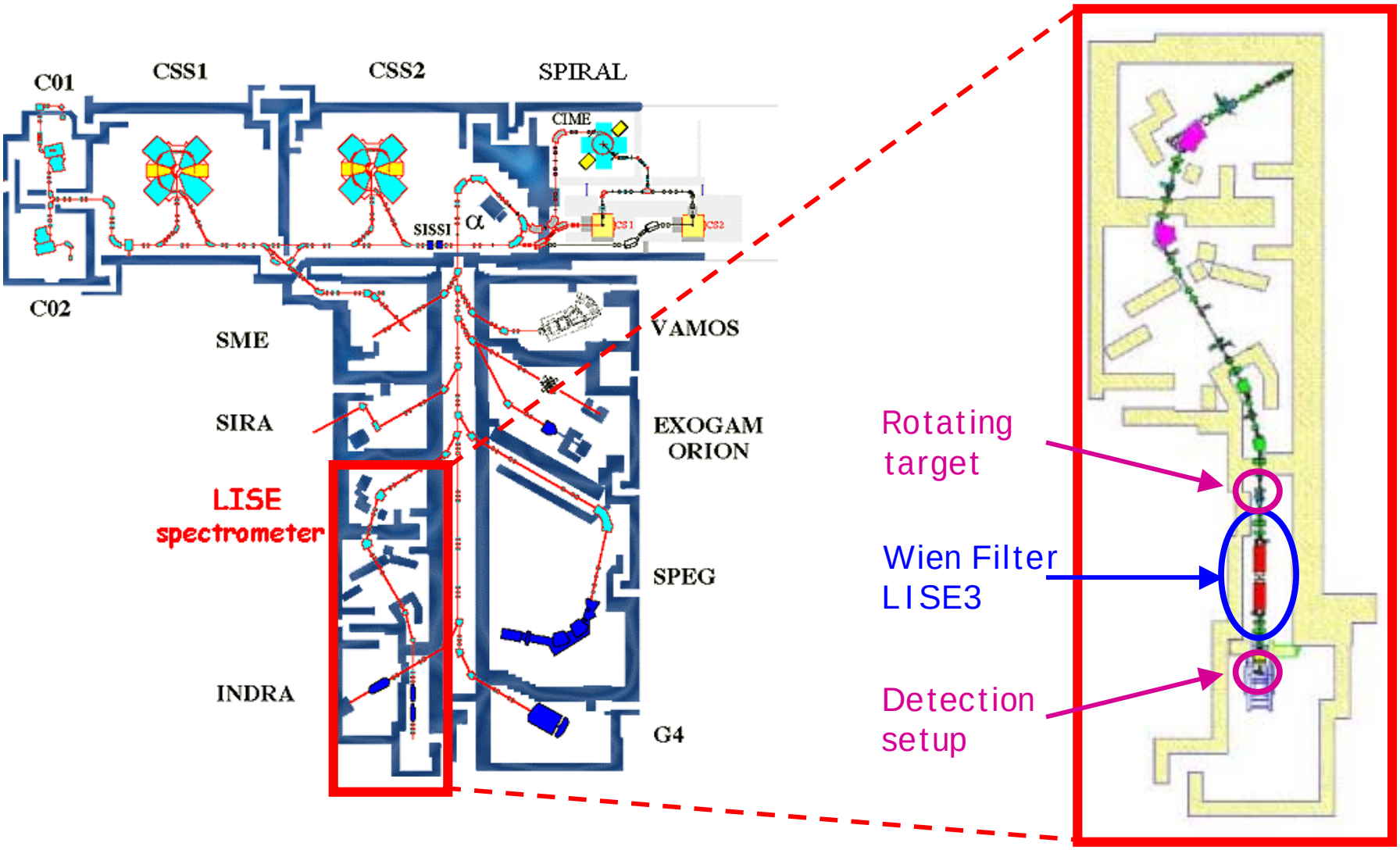
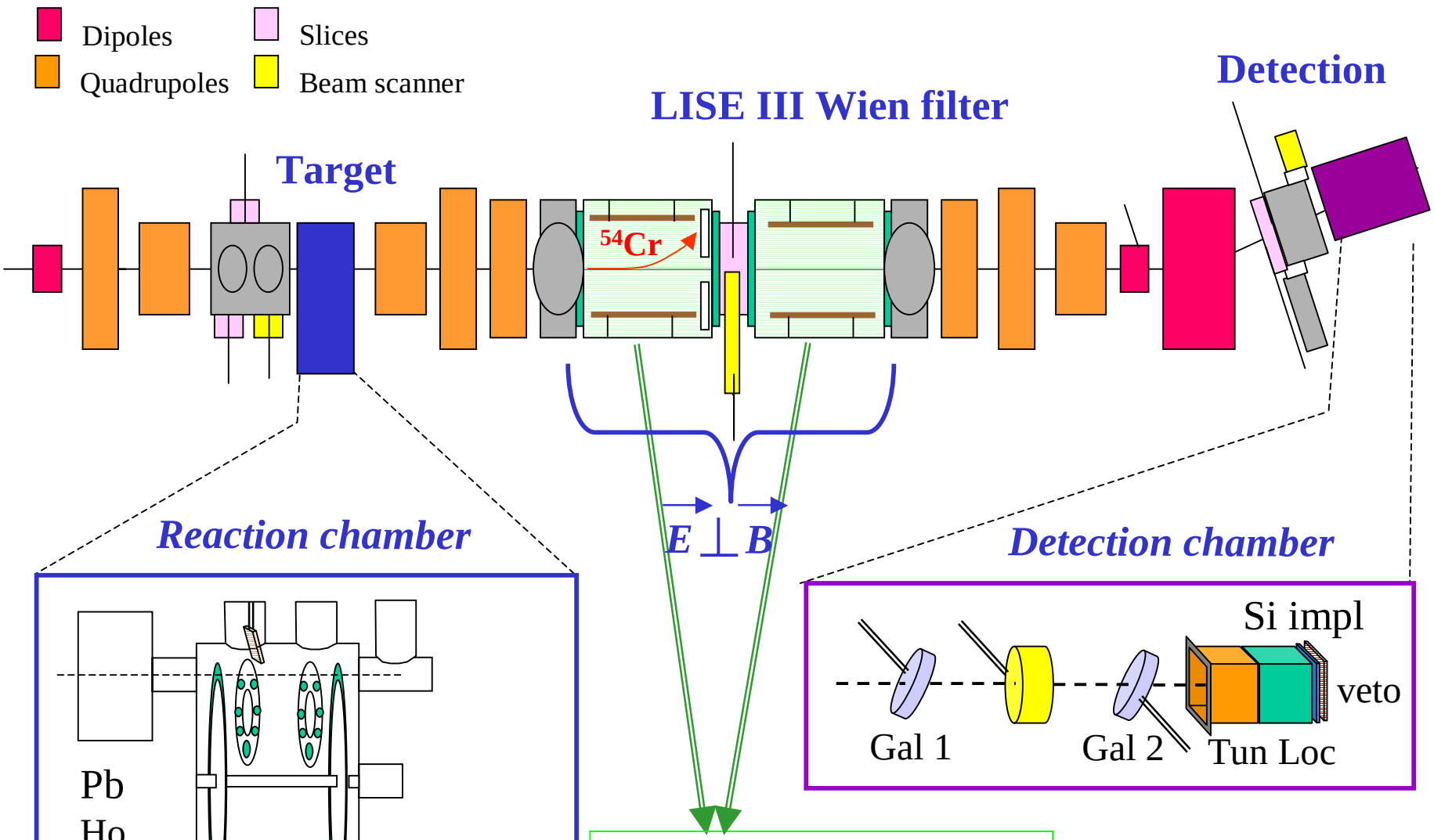
Fusion experiments at GANIL

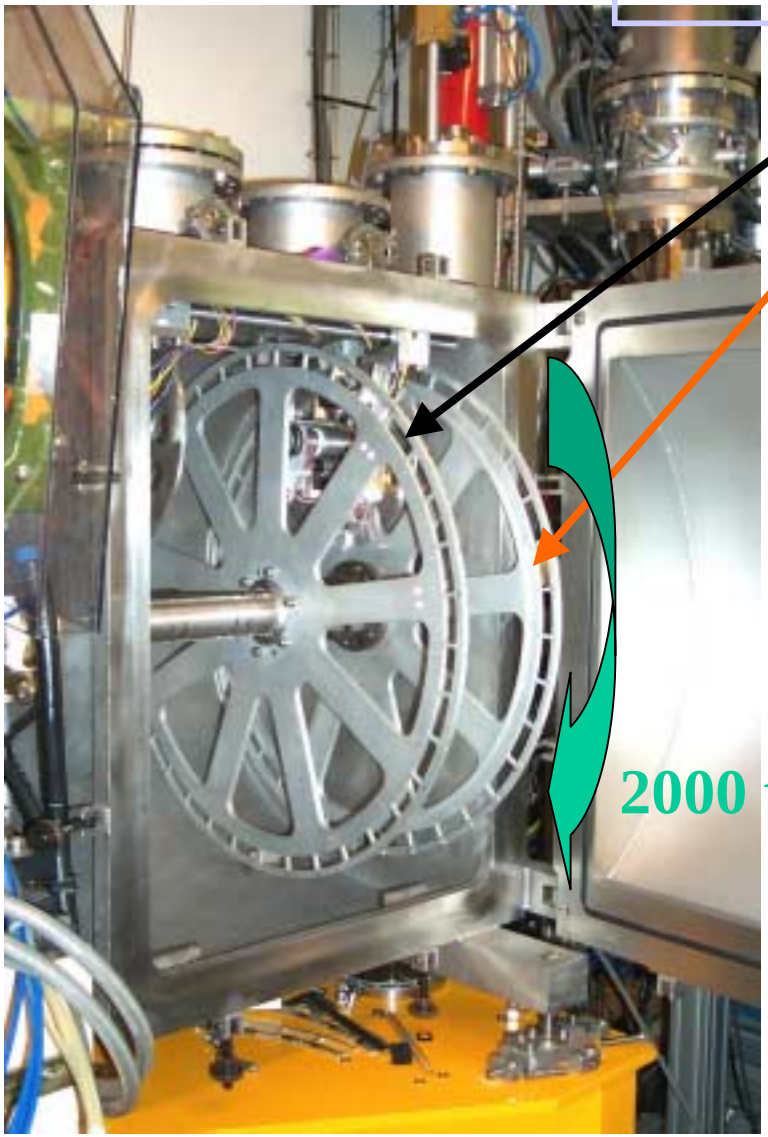


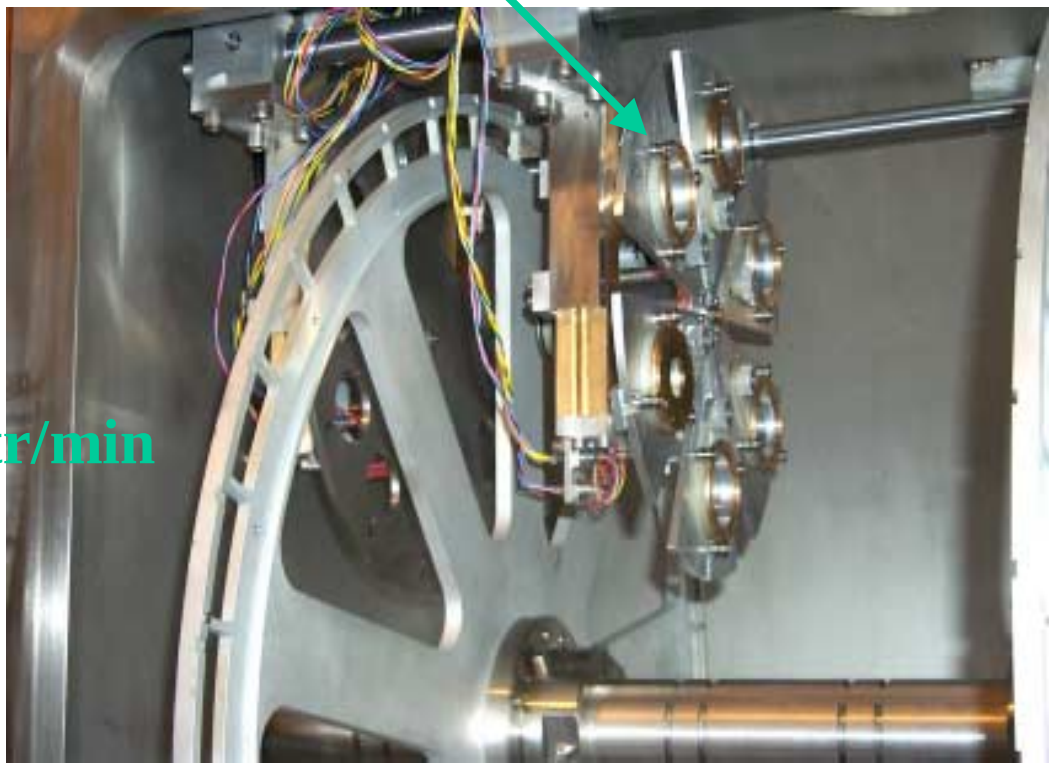
- Very intense primary beams available
- Powerful LISE3 Wien Filter

Expérimental set-up GANIL



Experimental set-up
Targets





LISE III Wien Filter
Characteristics

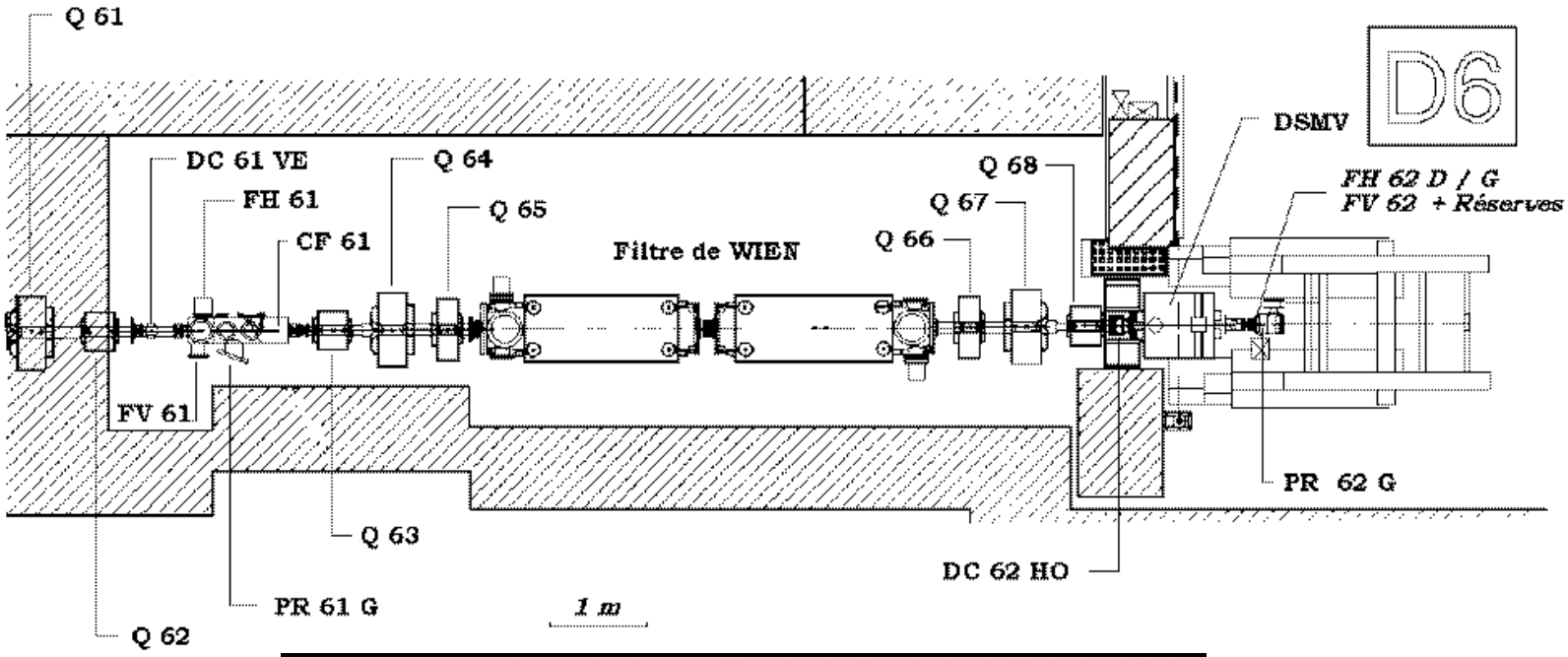
Lenght ((E,B) cell + 2* quadrupole triplets) ≈ 12 m
Distance target - entrance of first quadrupole = 65 cm
Length of the Wien Filter electrodes = 2 x 2,5 m
Last dipole angle = 0-23°

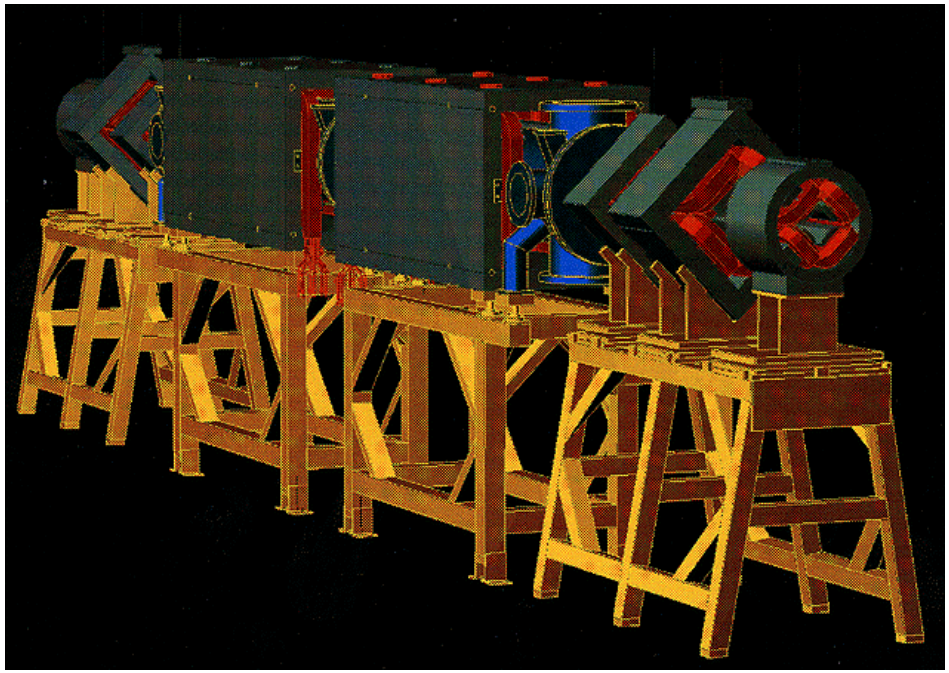
Electrostatic field : Max. total high voltage = 400 kV
Max. working high voltage = 350 kV (standard)
= 220 kV (SHE)
Magnetic field = 0.01 - 0.1 T

Angular acceptance: FWHM = 35,3 mrad
"Charge state" acceptance : +/- 5
Max. W.F. velocity dispersion Dv/v ≈ 3 cm/%

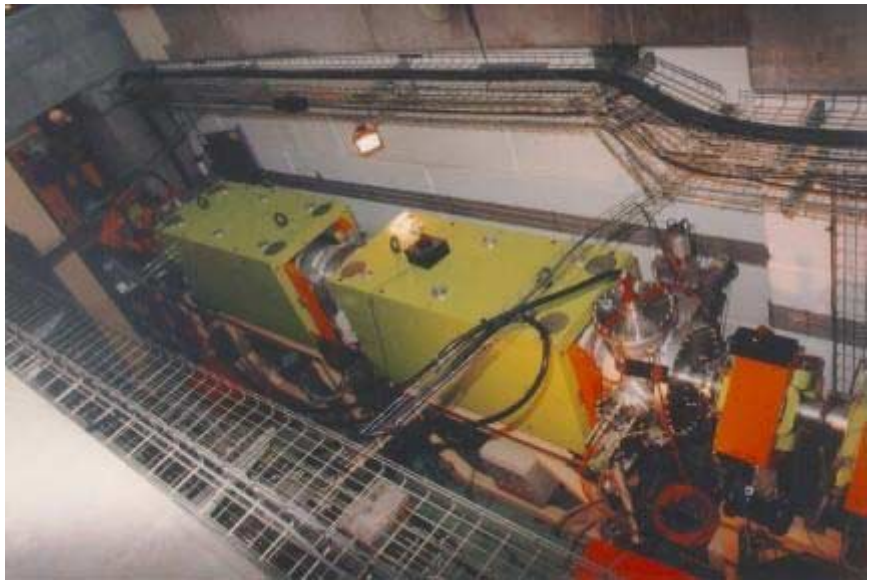
Transmission of 1 n evaporation residue in the reaction:
$^{54}Cr + {}^{208}Pb \rightarrow {}^{261}Sg + 1n = 65\%$
Suppression of the primary beam = $2x10^{10}$

« LISE 3: a magnetic spectrometer-Wien filter combination for secondary radioactive beam production »
R. Anne and A.C. Mueller - NIM B70(1992) 276-285
http://www.ganil.fr/lise/utili.html

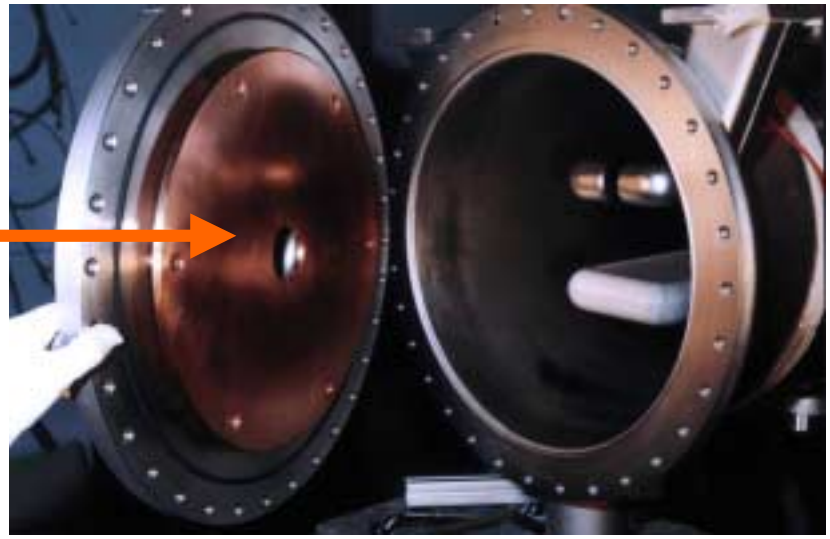

Q 61
D6
DSMV
DC 61 VE
FH 61
CF 61
Q 64
Q 65
Filtre de WIEN
Q 66
Q 67
Q 68
FH 62 D / G
FV 62 + Réserves
FV 61
PR 62 G
Q 63
DC 62 HO
PR 61 G
1 m
Q 62



Experimental set-up
Wien filter



Beam stop



Conclusions

-1- an important experimental program has been started at GANIL in 1997

-2- a complete device (rotating target, beam diagnostics, selection system and detection setup) was tested in december 2000 and is now ready to be used

-3- tests and evolutions are already planned in order to increase our possibilities

Near future

- Inverse kinematics Experiment (april - may 02)

$^{208}Pb + ^{54}Cr \rightarrow ^{260\text{-}261}Sg(Z=106) + 1\text{-}2n$