

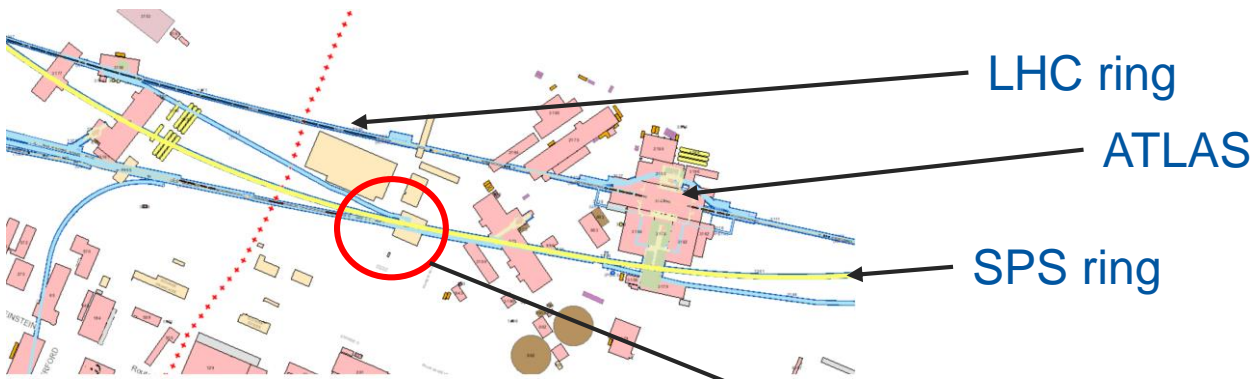


LSS621 Layout and apertures

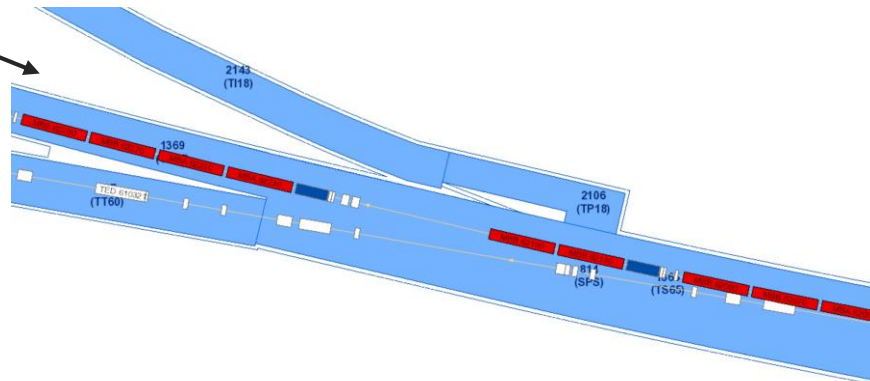
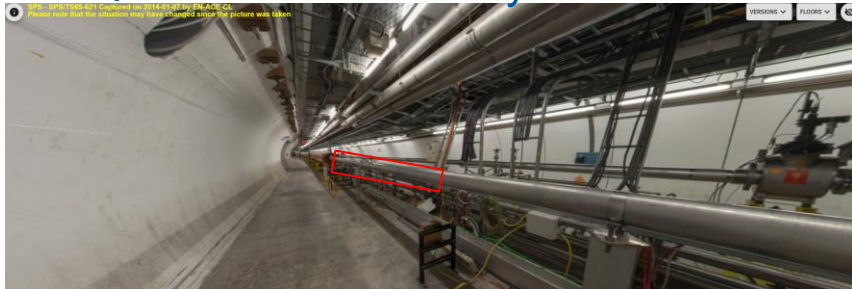
Gamma Factory meeting on the Proof of Principle
LAL, Paris, 3-5 June 2019

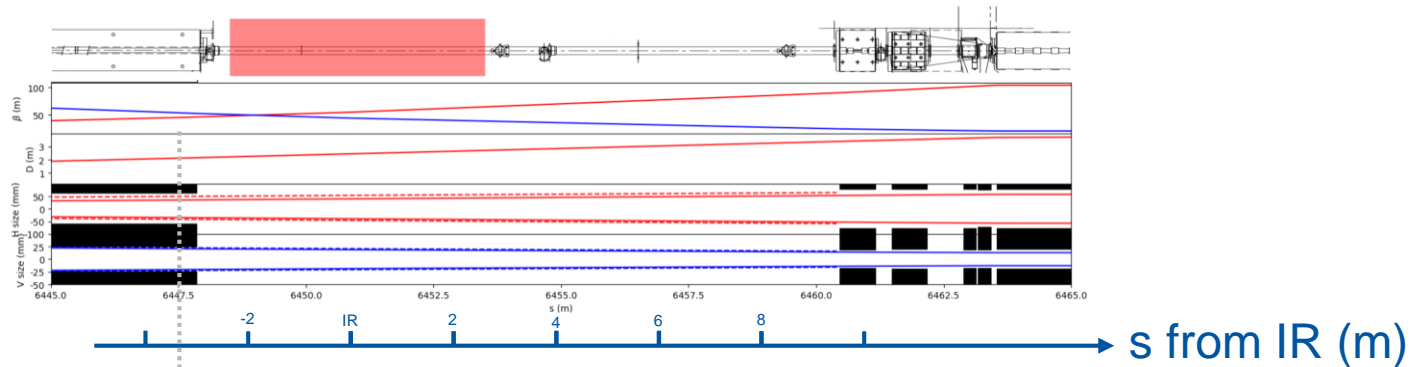
Y. Dutheil, B. Goddard, F. Velotti

Real space location

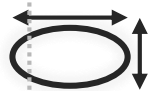


Wall penetration Cavity

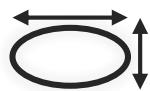




Cavity shields



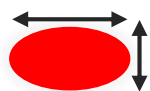
120x50mm



120x50mm

Forward photon cone

@ 7m

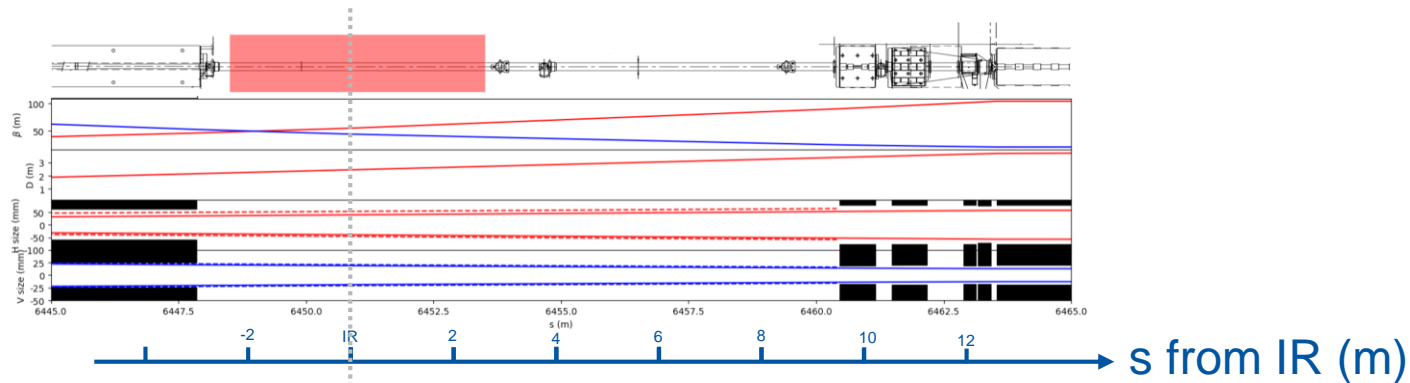


120x50mm
60x25mrad



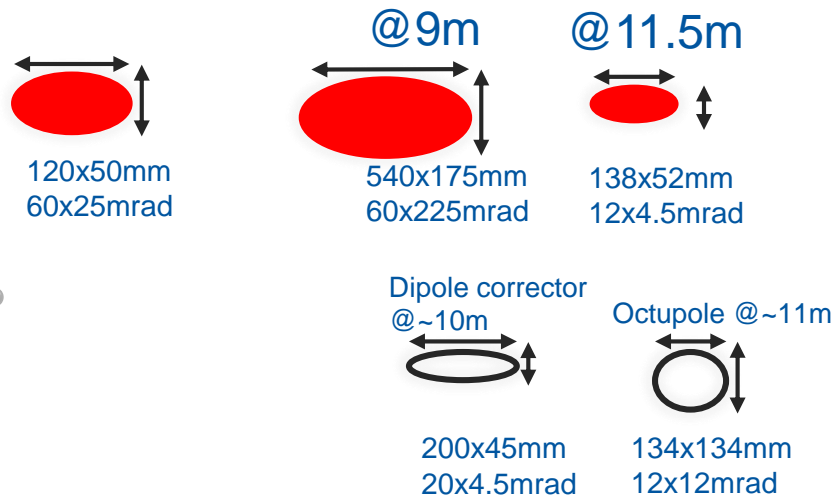
420x175mm
60x25mrad

Considering detector position 7m downstream the interaction point is conservative.
Possible to go further.



Forward
photon
cone

Magnet
apertures



Detector @11.5
m possible but
very little space
between stay-
clear region and
photon cone

Conclusion

- Detector below the IR is only constrained by the stay clear region (~50x120mm)
- Forward detector has other constrains
 - Optimal location depends on simulated flux
 - A position ~7m downstream from the IR can be considered for now as it leaves some margin if the cavity needs to be moved
 - Detectors after the two magnets (dipole corrector MPSH and octupole LOF) may not be relevant due to the limited space between the stay-clear region and the photon cone passing trough those two magnets.

Thank you

