



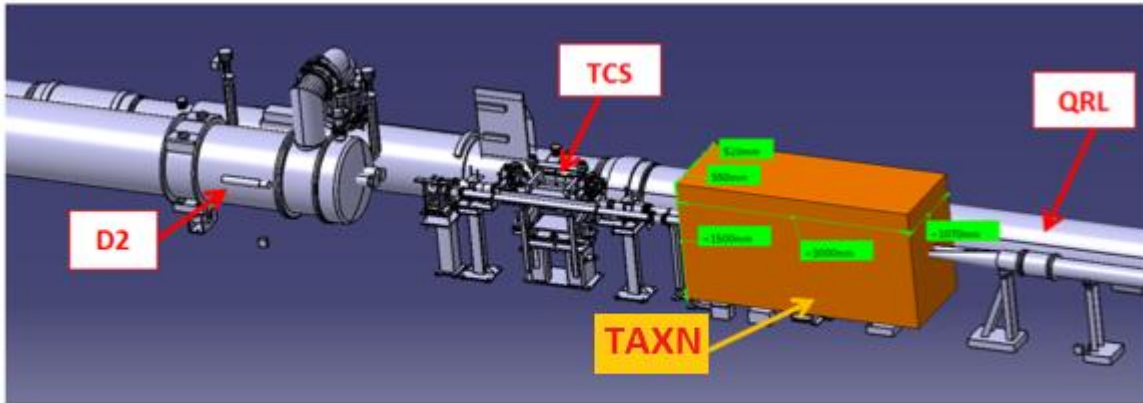
SITUATION OF TAXN AT P8

- The main problems are the energy peaks at the triplet (because there's no TAS at the region) and at the D2 (because no TAN).
- A 9x12x60 cm³ block made of INERMET + dedicated 50 cm Cu mask protecting the outgoing beam bore was considered.
- Peak power density is reduced a factor 10 (2 x5)

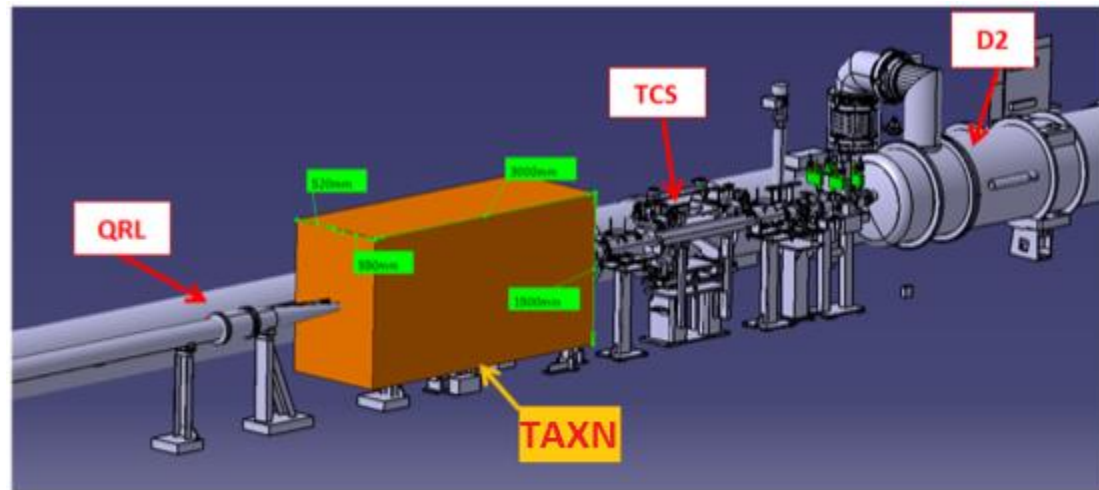
F. Cerutti, 22th WP8 meeting

Results show clearly that a mask placed at the exit side of the beam is enough.

- Current defined volume for a TAXN.

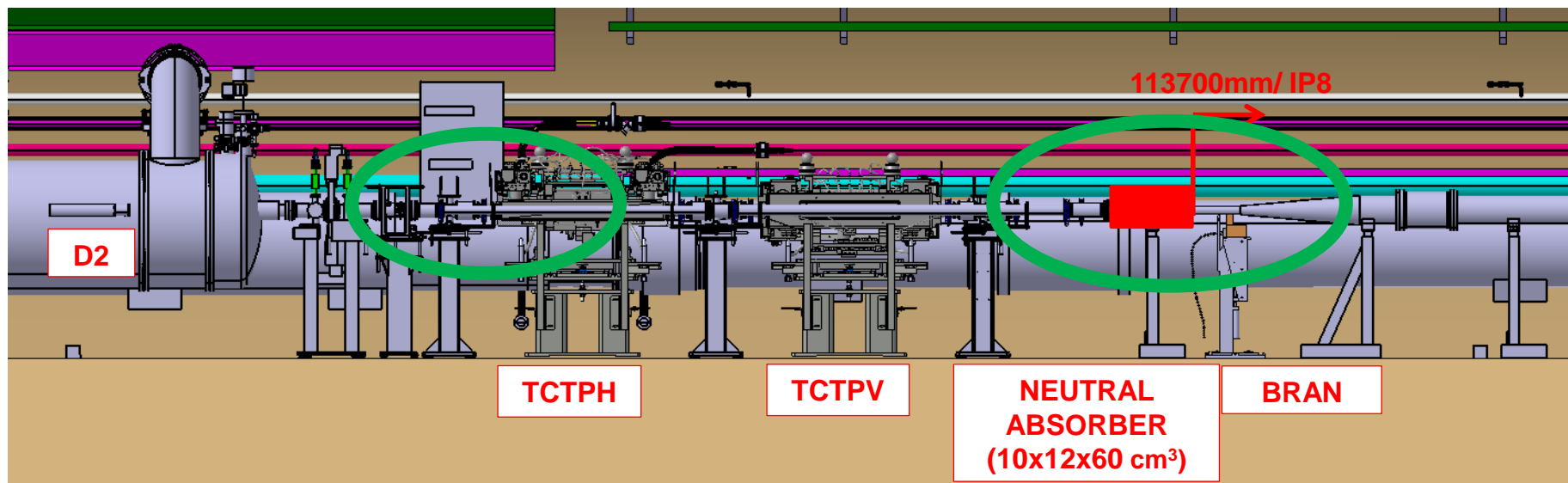


2. Point 8 Left (8L) general view. Dimension future TAN



2. Point 8 Right (8R) general view. Dimension future TAN

Collider-Experiment interface



Neutral absorber

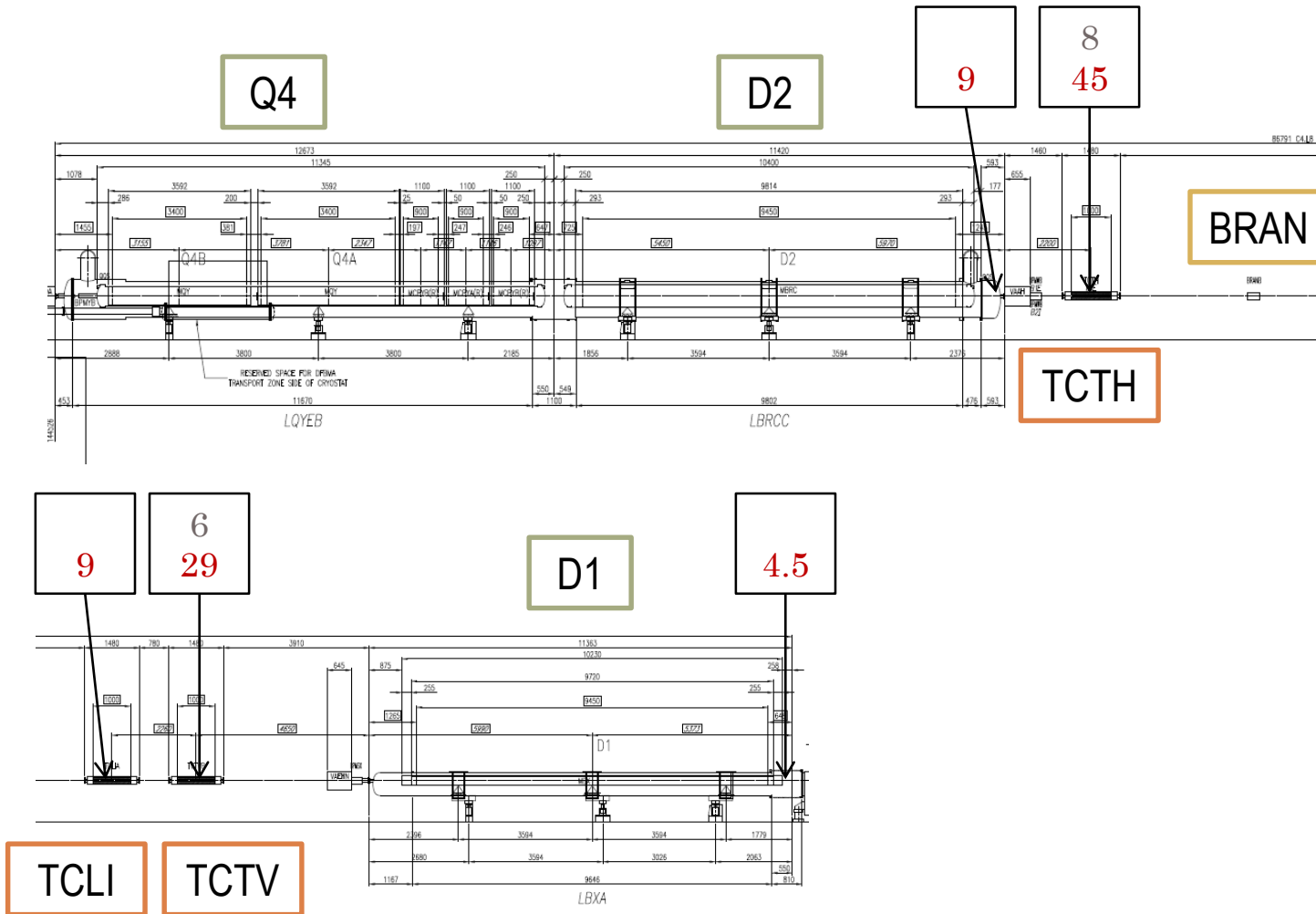
Chamonix 2014 : LS2 activity proposals	Chamonix 2016: LS2 activity proposals
Installation of a neutral absorber in front of D2 in L8	Maintained. (LHC-ECR to be done)
Installation of 2 TAXN for LHCb in P8	Maintained. (LHC-ECR to be done)



POINT 8 – RP SURVEY DATA

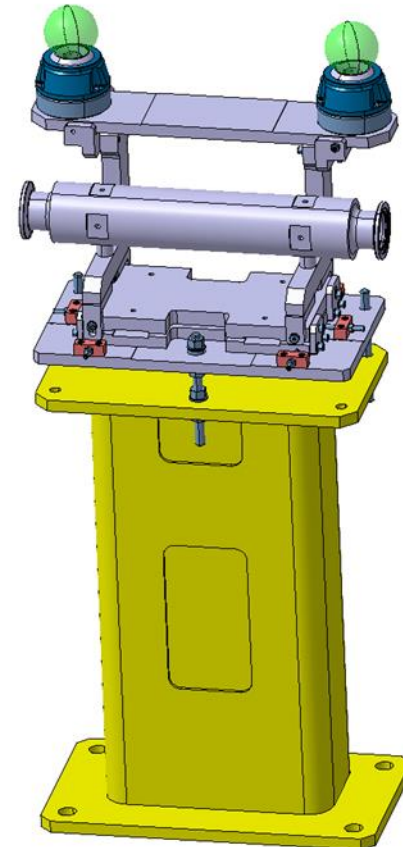


Ambient dose equivalent rates in $\mu\text{Sv/h}$ at **contact** and 40cm measured on Dec 17th, 2012 (last “good” fill on Dec 5th, i.e. cooling time >1week)



TCDDM

- 1.3 Equipment performance objectives
- The TCDDM is an essential complement of the new TAXN at IR8 as part of the D2 protection system. By absorbing collision debris, it reduces the energy deposition in the superconducting dipole D2, this way reducing the risk of quenches and damage for any operational scenario.
- Despite the fact that there are two parallel vacuum chambers at the mask location, only the vacuum chamber situated on the internal side of the ring needs to be protected.
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- TECHNICAL ANNEXES
- 2 PRELIMINARY TECHNICAL PARAMETERS
- 2.1 Assumptions
- The TCDDM mask (see Figure) will be essentially a thick vacuum chamber to protect the D2 coils, with the same aperture as the D2 bores (69mm inner diameter). The body of the fixed mask would form an integral part of the vacuum system. Its outer diameter is 150 mm and its effective length is 500 mm.



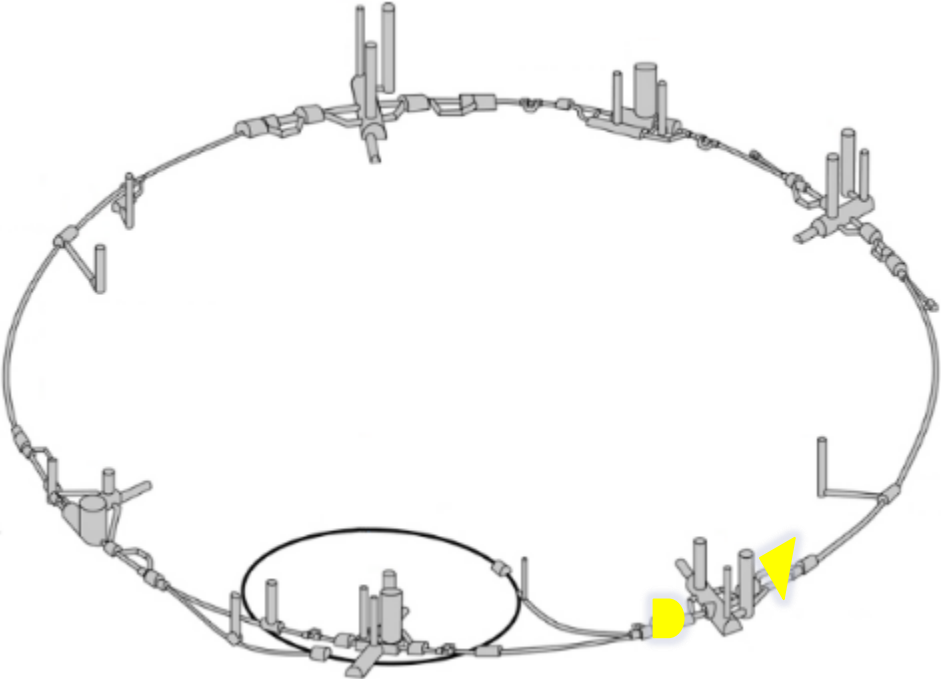
TCDDM Open issues (some of them)

- Integration in P8 layout challenging (WP15 Layout P8 start in April)
- Radiation scenarios. What luminosity shall we design for $\sim 10^{34} \text{ cm}^{-2} \text{ s}^{-1}$?
- Activation of the mask requires shielding?

TAXN P8 Open issues (some of them)

- INERMET vs Cu (TAN-like)
- Quick connection ?
- Radiation scenarios. What luminosity shall we design for $\sim 10^{34} \text{ cm}^{-2} \text{ s}^{-1}$?
 - Integration of BRAN- ZDC ?
 - Operation. Do we go for a fully remote?

WP8 – To be installed in LS2:



▲ TAXN

● Mask for D2

Equipment	Quantity	Location
TAXN for LHCb	2 units (1 per IP side)	P8
Mask for D2	TBC	P8