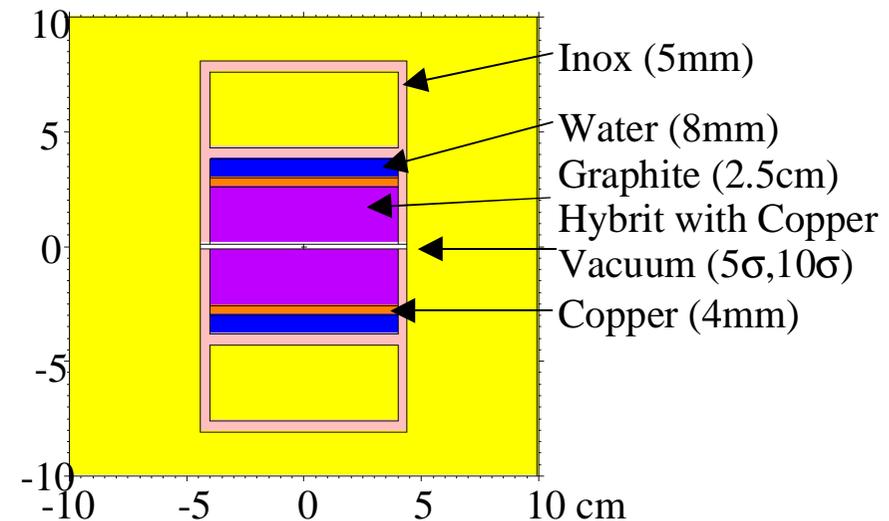
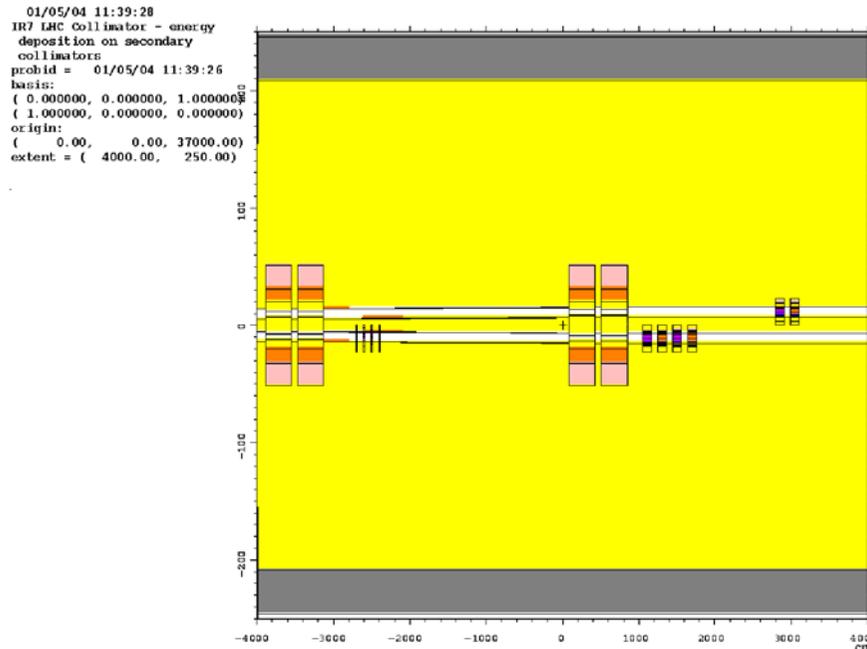


Question: contribution of activated collimator cooling water to total activation in cooling circuit



- geometry by Vasilis Vlachoudis (section of IP7 from TCPV to TCSH2)
- TCSH2: no aperture to account for downstream collimators (stop cascade)
- Calculation of isotope production in the cooling water:

- 1) Folding of hadron fluence with isotope production cross sections
- 2) Calculation of total number of high-energy inelastic interactions (stars) and multiplication with isotope-per-star conversion factors

Number of nuclides per lost proton:

	Collimators		Magnets*
	(fluence)	(stars)	(stars)
^3H	1.0	5.2	4.0**
^7Be	0.45	1.0	0.8**

* I.L.Azhgirey et al., Technical Note TIS-RP/TN/2002-024, EDMS: 349475

** does not include pipes

Conclusions:

- the activity produced in the collimator cooling water is comparable to the activity produced in the cooling water in the magnets
- **The collimator cooling water can be connected to the magnet cooling water circuit.**

However.....

However...

- in case of interventions *the cooling water has to be retained* and measured for its activation before any release
- *clear procedures are required* and have to be checked by SC-RP and SC-IE
- the *chemical quality* of the water has to be checked (e.g., the addition of chemicals to keep the water clear)
- *the amount of water* released in case of accidental rupture of the circuit has to be estimated (waiting for information from CV)