TCTVB at IR2

R. Assmann, AB

- Quick look at other collimator locations.

Daniela Macina:

LSS2L (Beam1)

- Between Q5 and the MSI. There is about 15 m free between 178-193 m from IP2 .

- Between MSI and Q6. In principle here there is space, BUT there are integration problems. In fact, the collimator must be put on the external beam line which runs close to the injection beam line. However, I had a first look at this region with the integration people, and it MIGHT be possible to put it attached to Q6 since there the injection line is rather far away from the Beam1 line. However, we have only 2-3 m free since on the injection line there is a collimator. In summary, the ~3 m location in front of Q6 (232-235 m from IP2) might be another possible location.

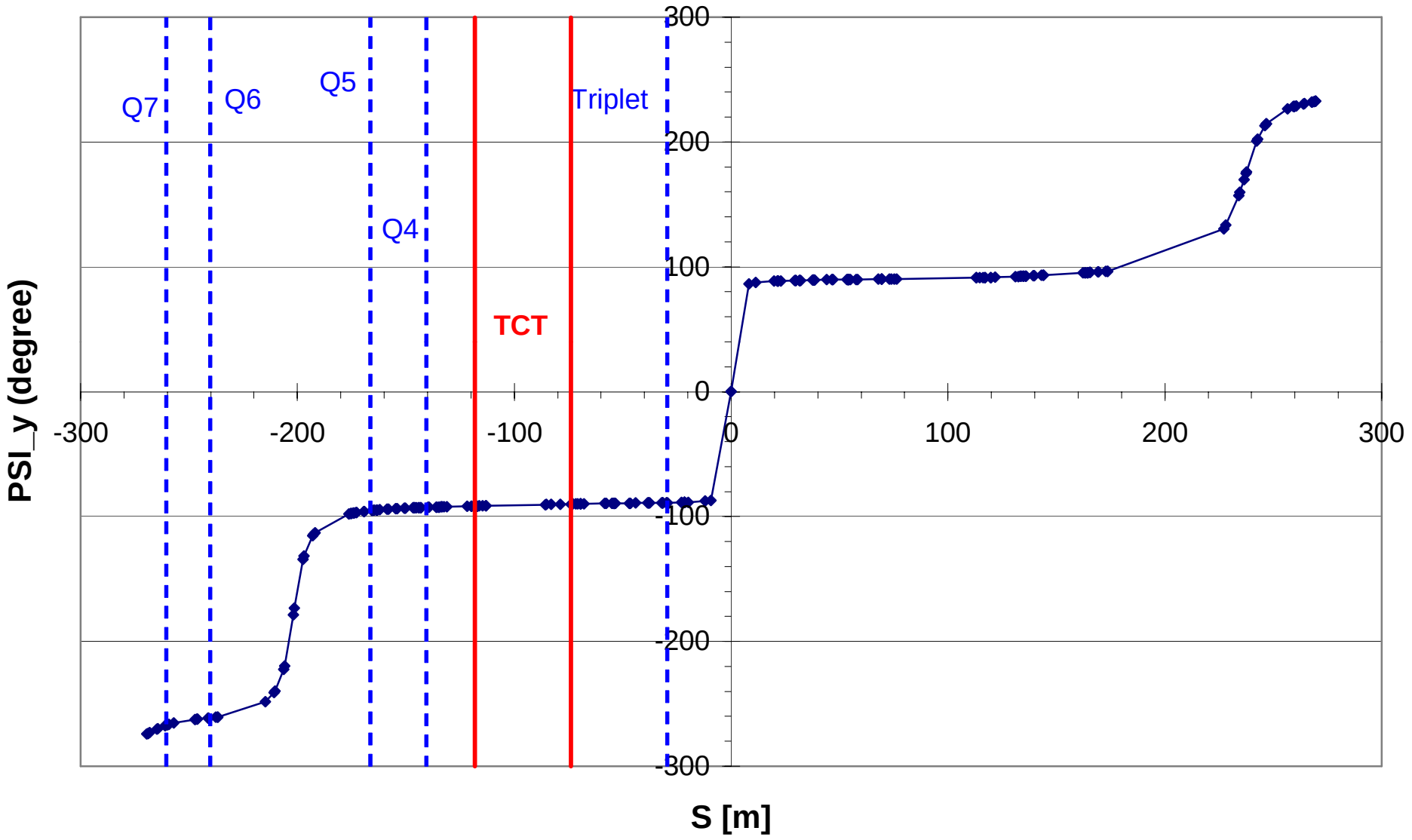
LSS2R (Beam2)

- Between Q4 and Q5. ~ 16 m free from 146->160 m from IP2

- Between Q5 and TCLIB (i.e. ~48 m free from 175->226 m from IP2

- Between TCLIB and TCIM (i.e. ~ 4 m free at 229 ->233 m from IP2)

Phase advance beam 1 (fully squeezed – best case)



Quick look beam 1:

Fully squeezed: lowest phase advance in IR region towards triplet.

Only possibility: Just in front of Q5. Will not work for larger beta*.

No obvious solution for beam 1 even in this case.

Collimators move out of effective phase advance ➔ closer setting required for cleaning, protection and background control!

Further disadvantages:

Larger distance to triplet makes protection and cleaning less controlled ➔ more heavily affected by magnets and perturbations (crossing bump, IR orbit, …).

Need to look into path of showers.

➔ Would not recommend to go to such non-standard solution. IR2 would be different from other IR's.