

Updates on GLDc

Aug. 20, 2007

Yasuhiro Sugimoto

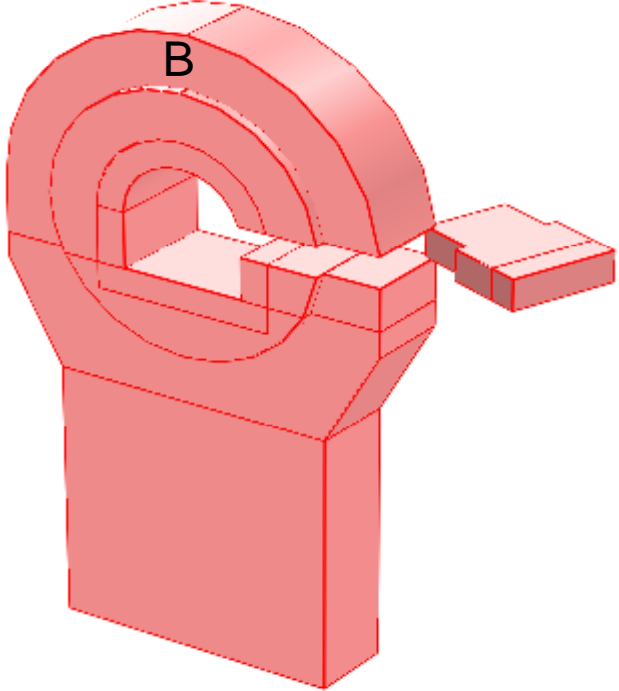
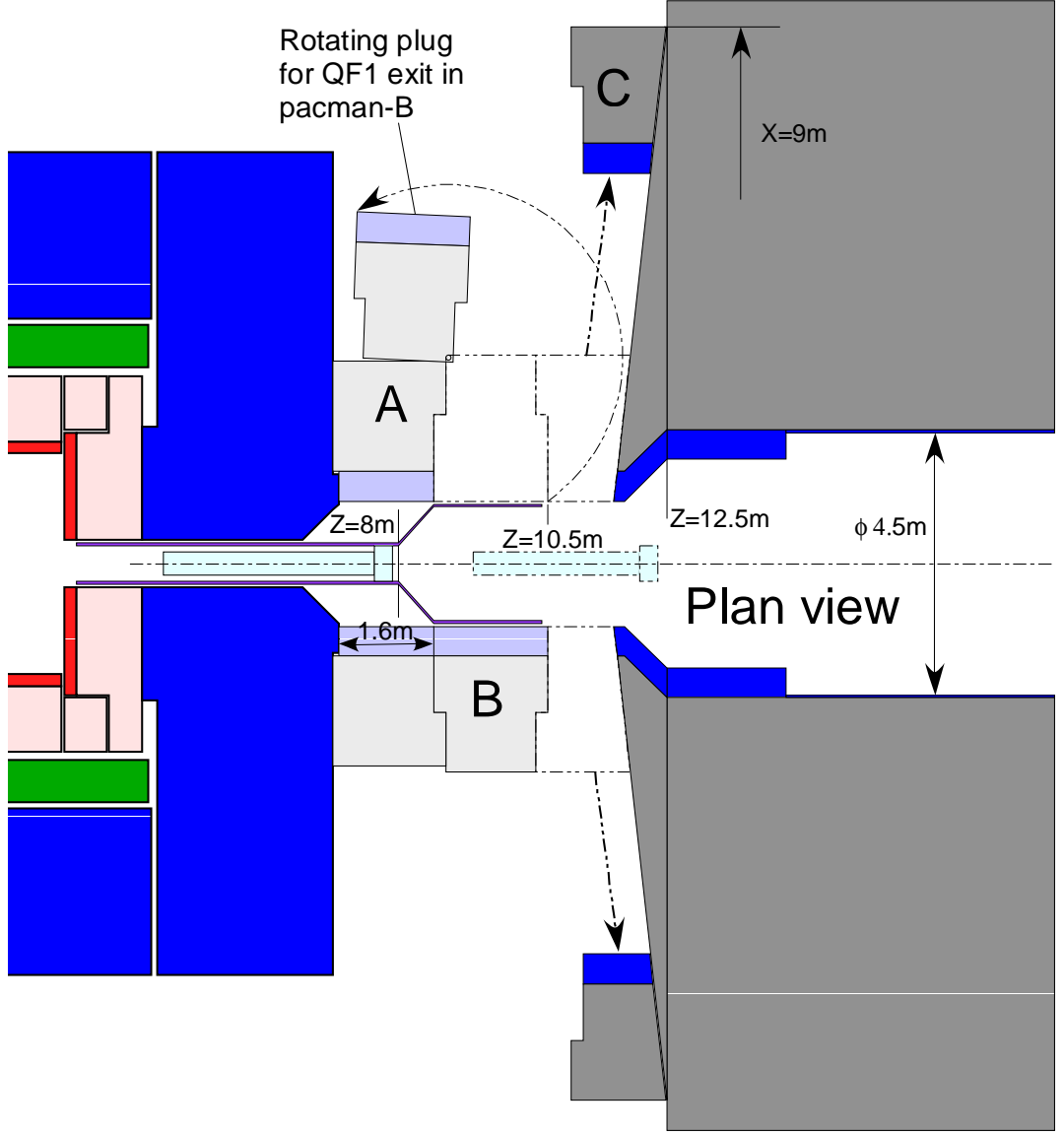
Questions in previous meeting

- Do we really need crane operation during push-pull in two-cryostats configuration?
- Why magnetic force on pacman iron is opposite to IR?
- How to split the sub-detectors in the split-endcap design?

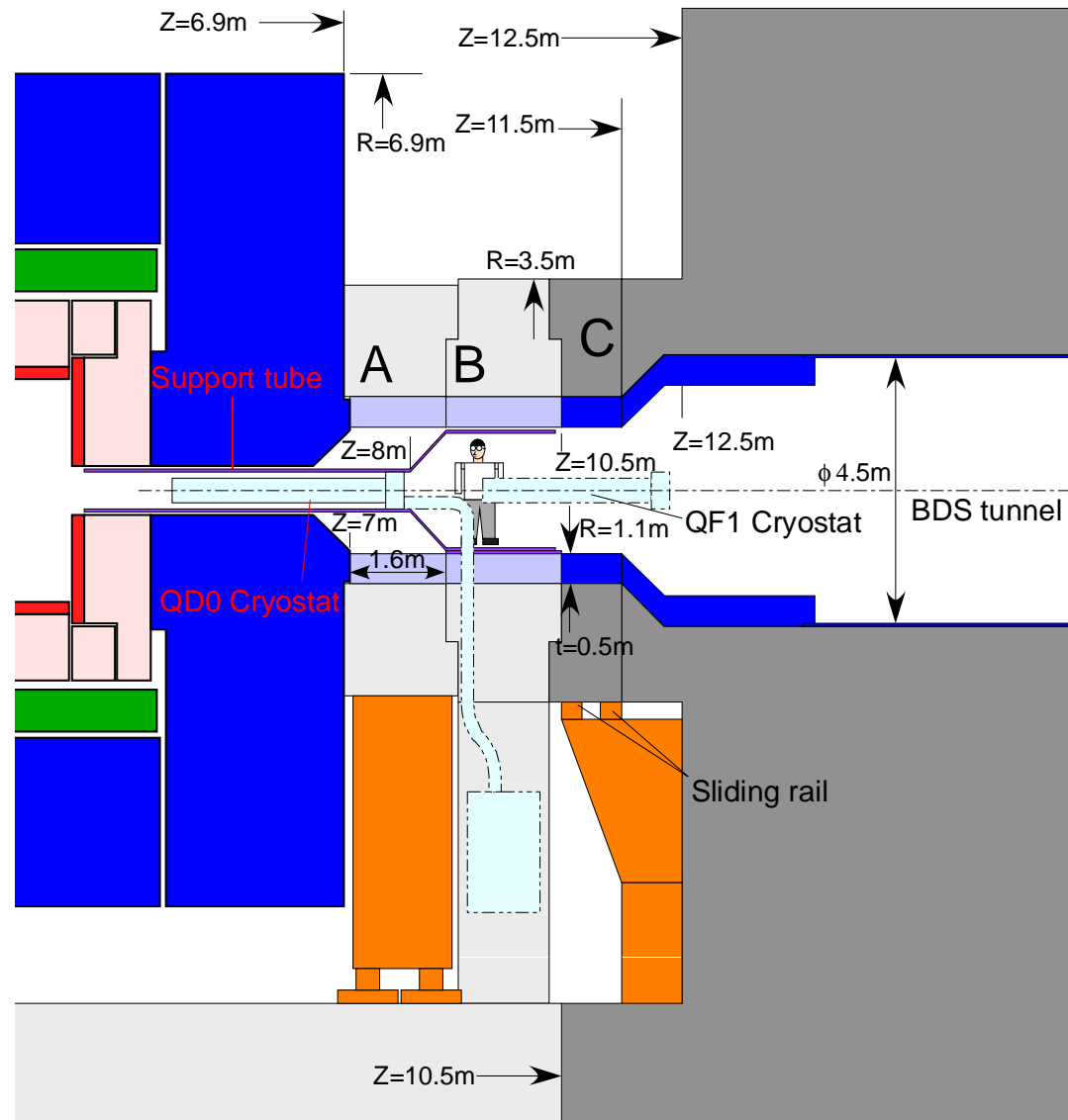
GLDc with 2 cryostats

- At present, there is no optics with $L^* > 4$ m and QF1 end at $Z=10.5$ m
- Two cryostats for final doublet, and BDS cut between QD0 and QF1 should be assumed for the moment
- Crane operation to remove upper part of packman B in the push-pull operation can be avoided by using a “rotating plug” in the gap for path of QF1 cryostat

GLDc with 2 cryostats



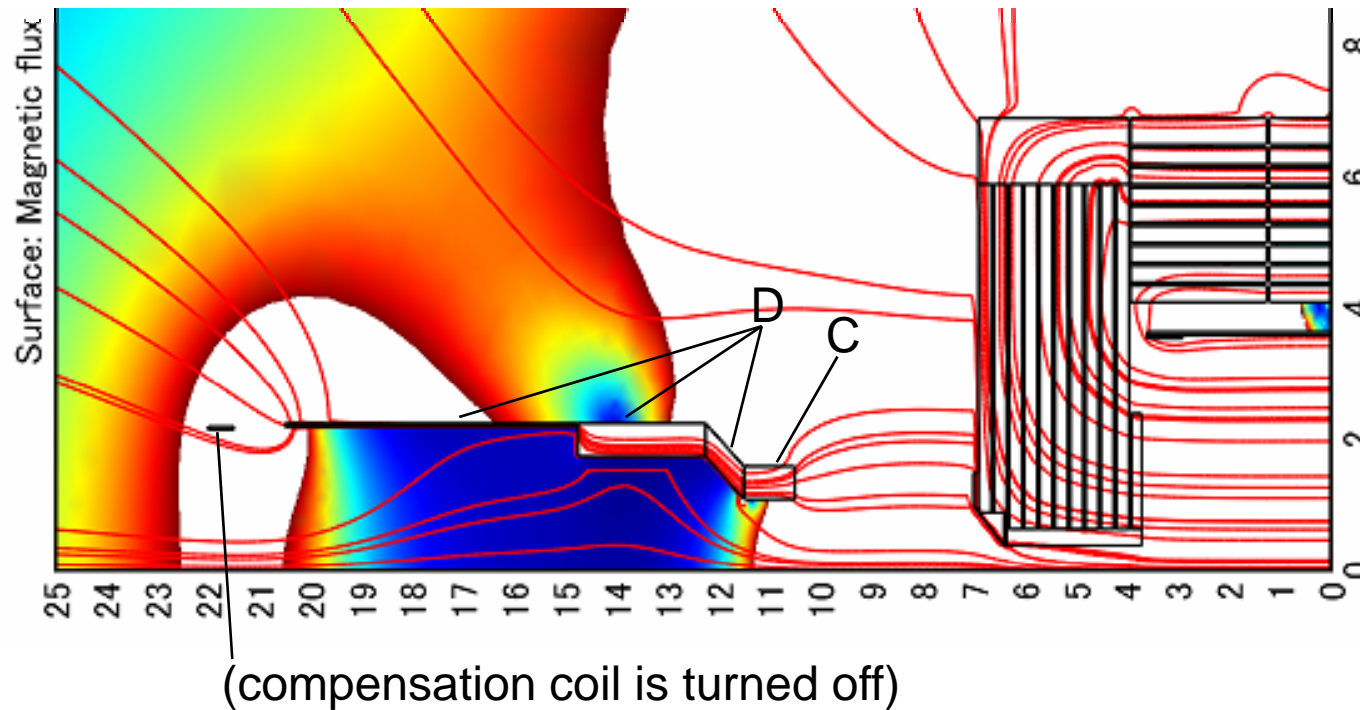
GLDc with 2 cryostats



B field of GLDc

- Large volume of iron in the BDS tunnel attracts field line, and C part (and B part if exists) is attracted towards D part
- Total force (C and D) is directed to IP

C	+18 kN
D	-23 kN
Total	-5 kN



Gap in sub-detectors

- Endcap calorimeters
 - Split along a plane which does not cross the IP (x=30cm plane, for example)
- Endcap muon detector
 - Split along the x=0 plane (same as iron yoke)
 - Tracks entering the muon-detector gap can be detected by TPC and calorimeters
 - If the particle is a pion, it creates hadronic shower in iron yoke, and would be detected by muon detector even if there is small gap

Gap in sub-detectors

- Endcap CAL

