Split the EndCap or not?

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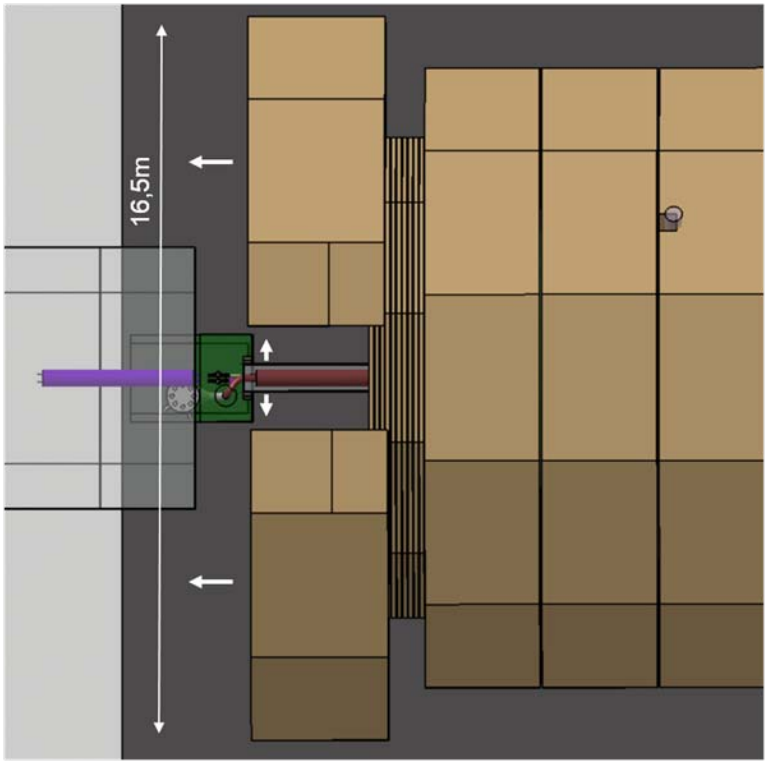
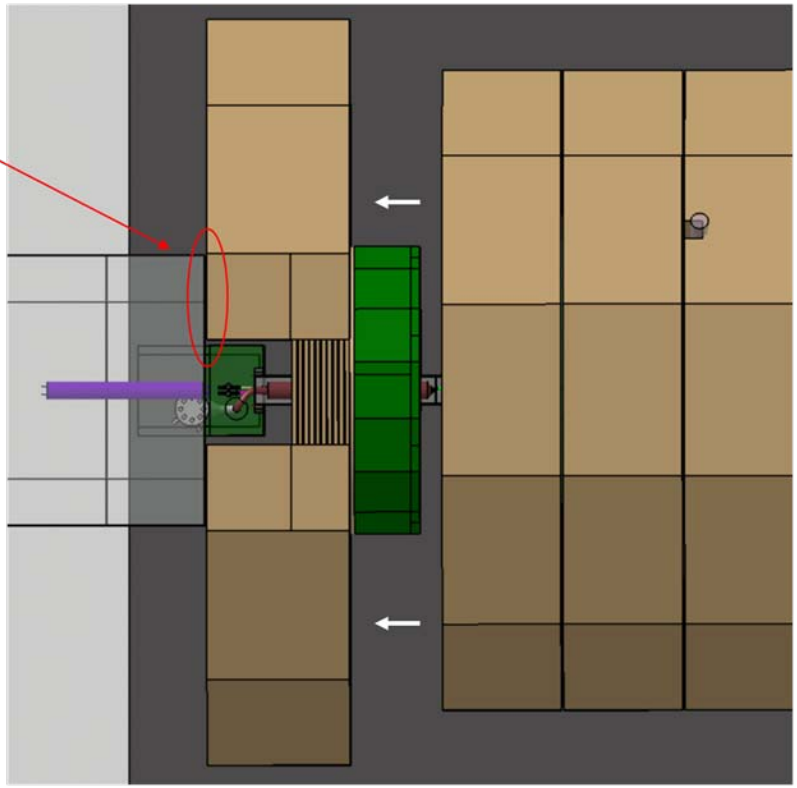
Outline

- Reminder
  - **Last discussions on opening on beam**
  - **Current opening scenario**
- No split endcap study
  - **Very rough design…**
- Conclusions

Current opening scenario



Limited by shaft



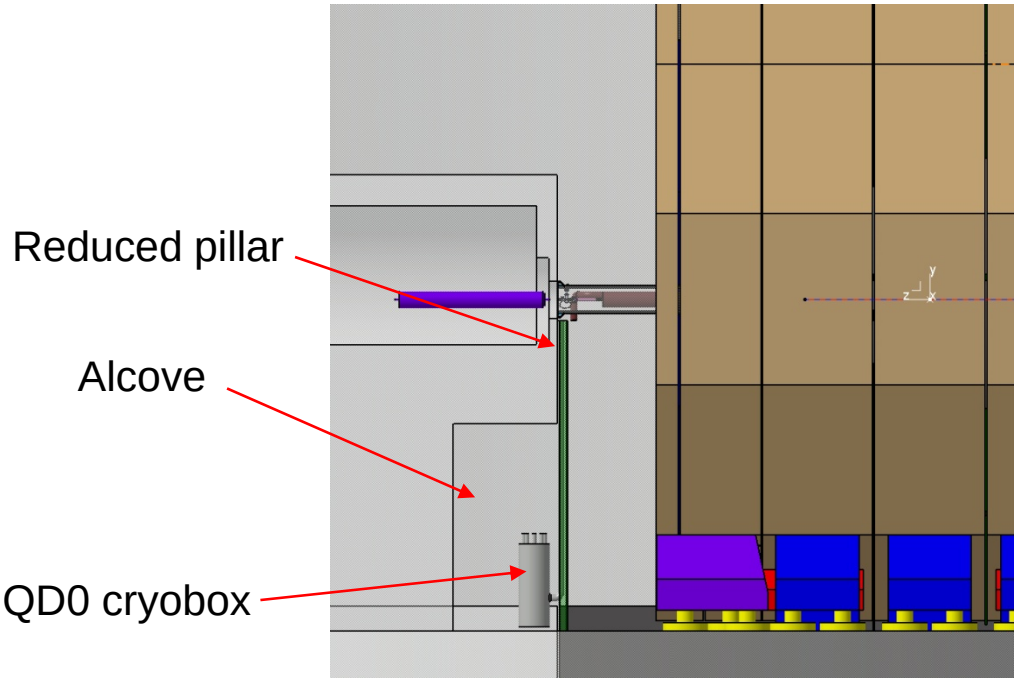
Reminder

- Last discussions at LAL led us to abandon the opening on beam :
  - **Access would have been very limited (about 80cm)**
  - **Very minor maintenance would have been possible**
  - **Complete scenario not compatible with the push-pull :**
    - Opening the detector : 1 day
    - Maintenance : few days or more
    - Closing and alignement : 1,5 day
    - Sum would be more than 1 week…
- Moreover the split of the endcaps seem complicated :
  - **Movement in the x direction not easy to handle**
  - **Behavior with magnetic field**
- So let's make it on the garage position which is easier and try to simplify the EndCap design

Proposed solution

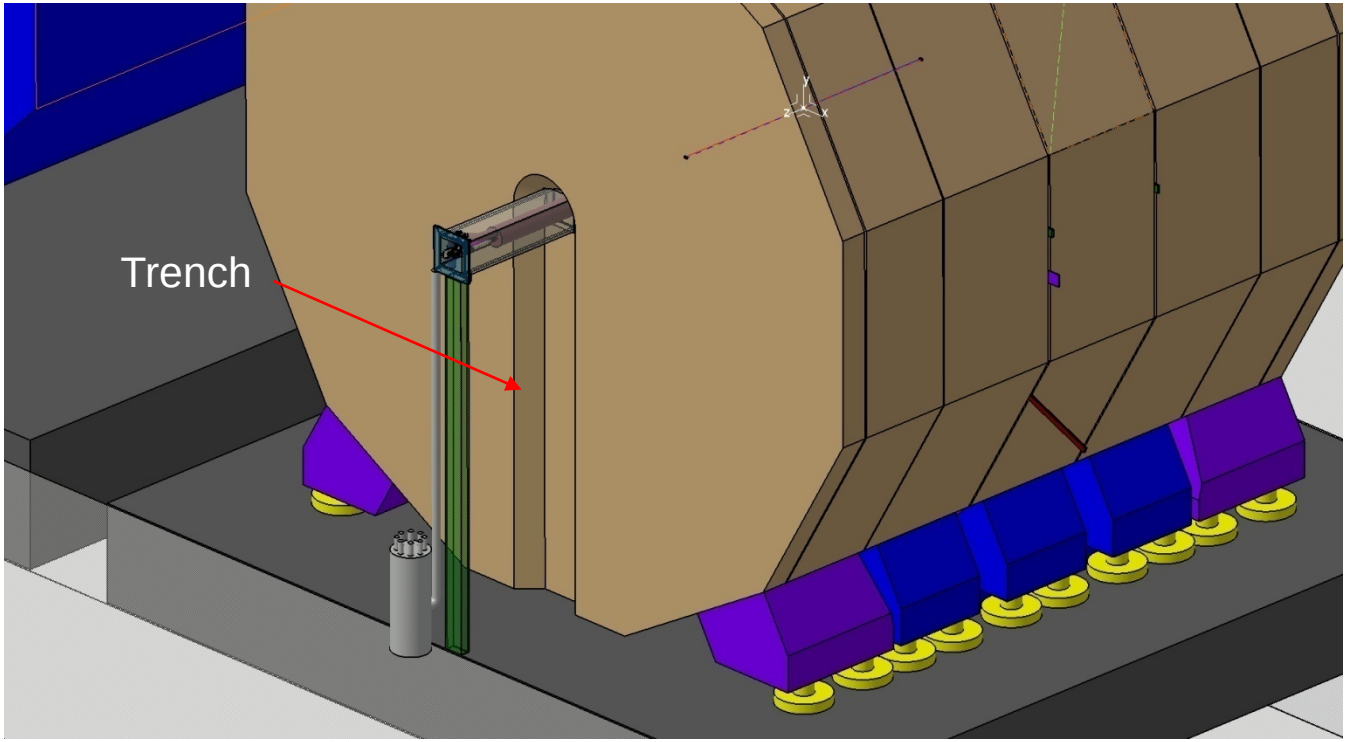
- Reduce the pillar as much as possible
  - **200mm length/400mm width/15mm thick should works**
  - **Bucking safety coefficient is 15 with 6tons**

- Move the QD0 crybox out of the platform
  - **Need an alcove on the cavern wall**

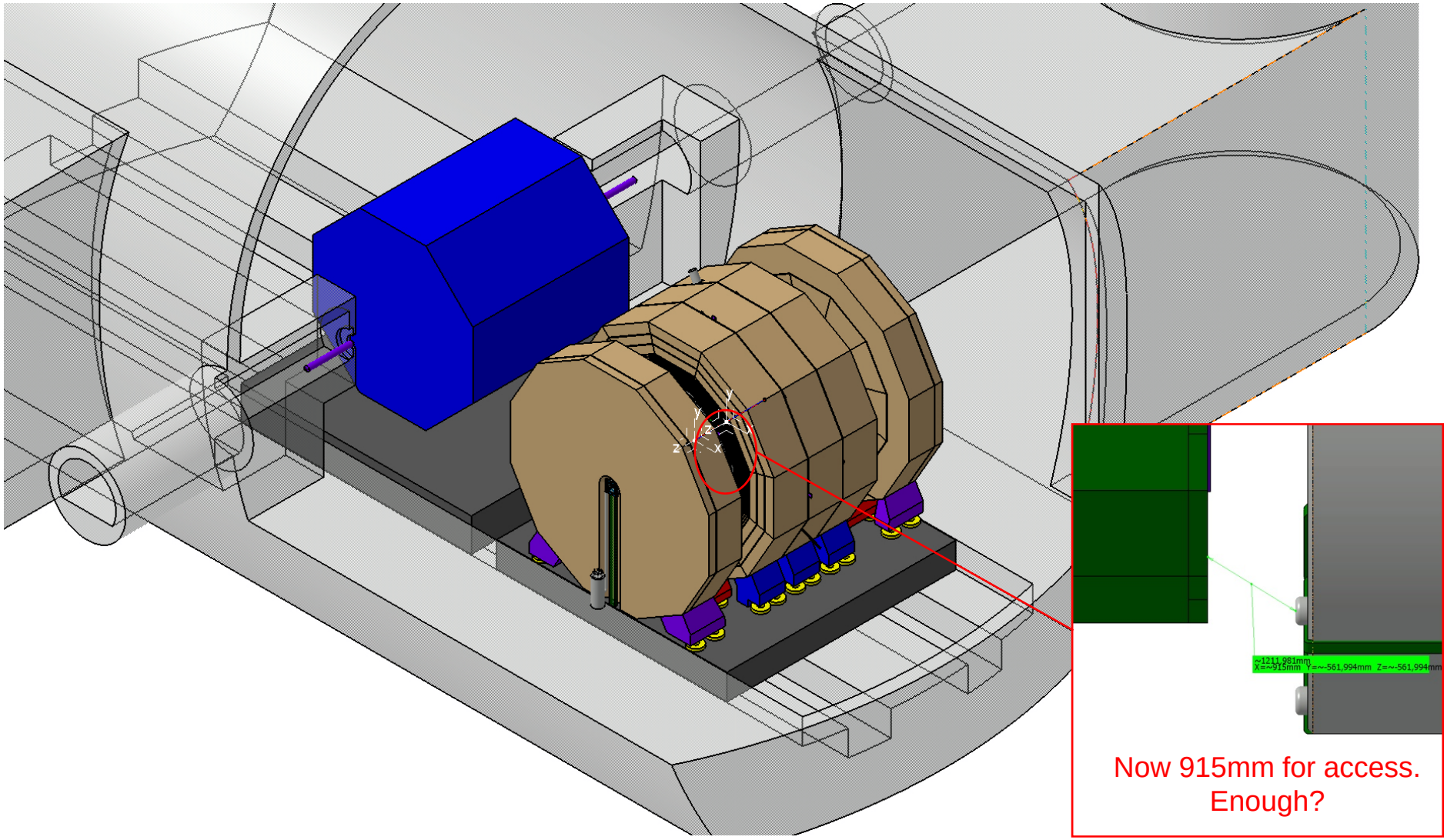


Proposed solution

- Add a trench on the non split yoke
  - **Should not impact so much the fringe fields (TBC)**
  - **400mm deep and 800 wide with chamfer**

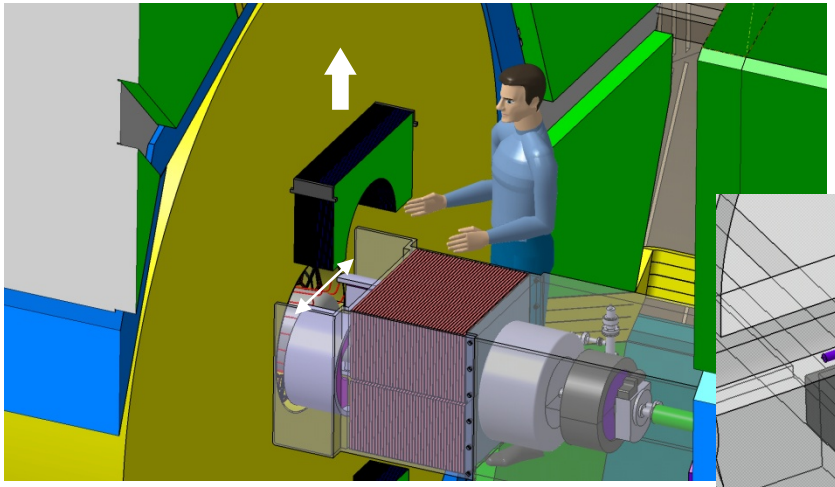


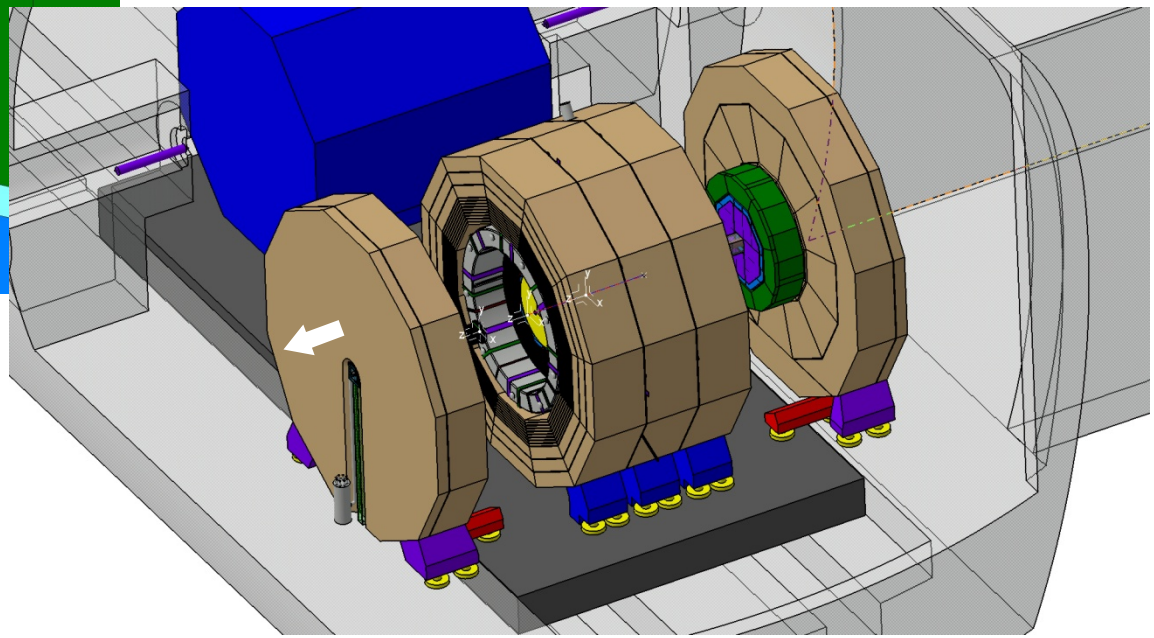
New opening on garage



Opening for big maintenance

- Open the lumical and the Ecal ring
- Disconnect the beam pipe
- Move the pillar+cryobox+Forward region+EndCaps





Conclusions

- Non split endcap seem feasible with 915mm for access on beam
  - **Any comments?**

- To be studied :
  - **Detail design of the piller and the trench**
  - **Detail opening scenario**
  - **Impact on the fringe fields**
  - **Pacman compatible with SiD and our pillar**
  - **Tooling**

- For discussion ….
  - **Do we really need the last 560mm yoke ring?**