Status of the special Tilecal modules

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1 General

We are trying here to summarize what is known today about the various services and geometry of the systems near to the Tile Calorimeter and their impact on the Tile Calorimeter layout. The information is provided by the Atlas technical coordination team.

2 Barrel status

The situation is quite simple, just 1 LAr service on each side will cause the fingers of the barrel to be special.

- **Side C:** module #18 will have a special finger (100mm length). This drawer will be extracted from side A
- **Side A:** module #15 will have a special finger (100mm length). This drawer will be extracted from Side C

In both cases, the space where we will have no finger will be at least 100mm deep, enough to organize a special finger (patch panel) to extract the signals, the cooling and the services of the drawer. All modules will be standard. Figure AT720044PL shows the details of the services on the barrel

- **Module 39,40,41,42,55,56,57,58** will have finger mounted on the cryo barrel supports. This means fingers 85 mm shorter on the barrel. This on both sides.

3 Extended Barrel A

- **Modules #14,15:** Plug shorter (total thickness 80 mm for part I and part II), girder#15 as short as the plug, girder#14 normal with small machining on one corner to clear the pipes. Drawer#14 will be special or will extend inside the finger.
- **Modules #18,19:** Plug shorter (total thickness 80 mm for part I and part II), girders normal. Interference with LAr HV services. We could if necessary increase the plug thicker size to 214mm
- **Modules #39,40,41,42:** Plug inexistent on the thin part (we might take a total thickness of 20 mm, just scintillator), girder normal. Interference with cryo supports barrel.
- **Modules #55,56,57,58:** Plug inexistent on the thin part (we might take a total thickness of 20 mm, just scintillator), girder normal. Interference with cryo supports barrel.
- **Module #22:** special finger (100mm thick) to extract the signals. The drawer will be extracted from the other side.
- **Module #21:** Possible modification of the finger to clear few cm of interference with a cryo service line
- **Module #36,37,38,60,61,62:** 2 front submodules and 1 end submodule shorter to allow the clearance on of the LAr supports.

Details of the service layout are visible on the drawing AT720090PL, AT720095PL, AT72111PL.
4 Extended Barrel C

- **Modules #18,19**: Plug shorter (total thickness 80 mm for part I and part II), girder#18 as short as the plug, girder#19 normal with small machining on one corner to clear the pipe. Drawer#18 will be special or will extend inside the finger. Interference with safety line.

- **Modules #14,15**: Plug shorter (total thickness 80 mm for part I and part II), girders normal. Interference with LAr HV services. We could if necessary increase the plug thicker size to 214mm.

- **Modules #39,40,41,42**: Plug inexistent on the thin part (we might take a total thickness of 20 mm, just scintillator), girder normal. Interference with cryo supports barrel.

- **Modules #55,56,57,58**: Plug inexistent on the thin part (we might take a total thickness of 20 mm, just scintillator), girder normal. Interference with cryo supports barrel.

- **Module #22**: special finger (100mm thick) to extract the signals. The drawer will be extracted from the other side.

- **Module #21**: Possible modification of the finger to clear few cm of interference with a cryo service line.

- **Module #36,37,38,60,61,62**: 2 front submodules and 1 end submodule shorter to allow the clearance on of the LAr supports.

Details of the service layout are visible on the drawing AT720074PL, AT720096PL, AT730107PL.
Figure 1: AT720044PL
Figure 2: AT720090PL
Figure 3: AT720095PL
Figure 4: AT721121PL
Figure 5: AT720074PL
Figure 6: AT20096PL

LA- BARREL CRYOSTAT
POSITION OF CONNECTIONS
IN Z (PROPOSED).

SIDE C
Figure 7: AT730107PL