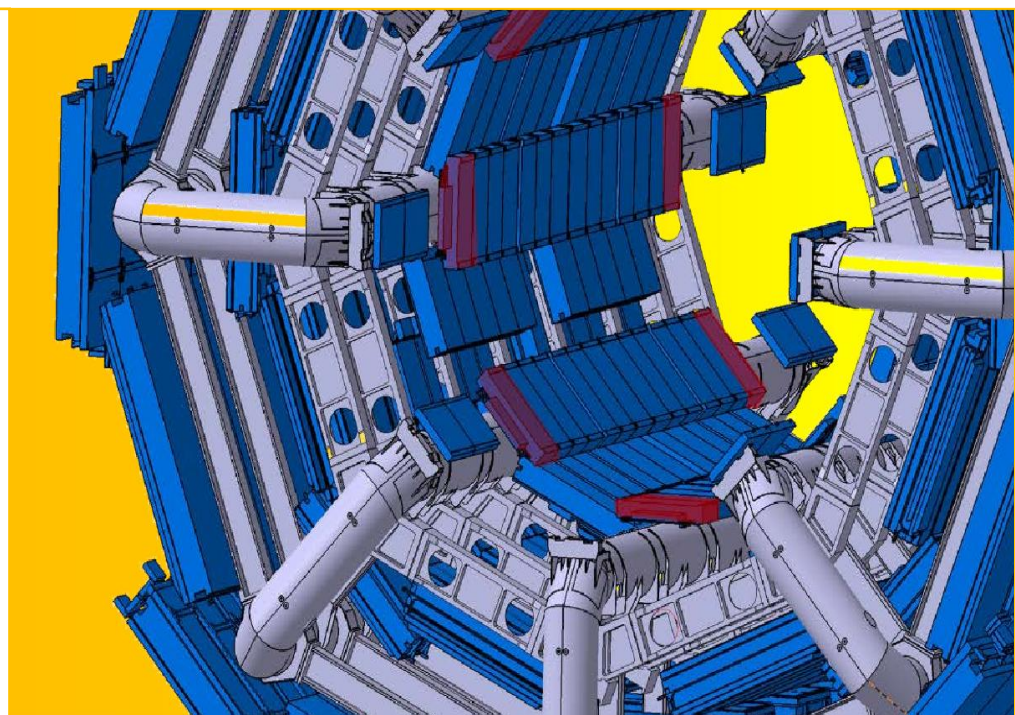
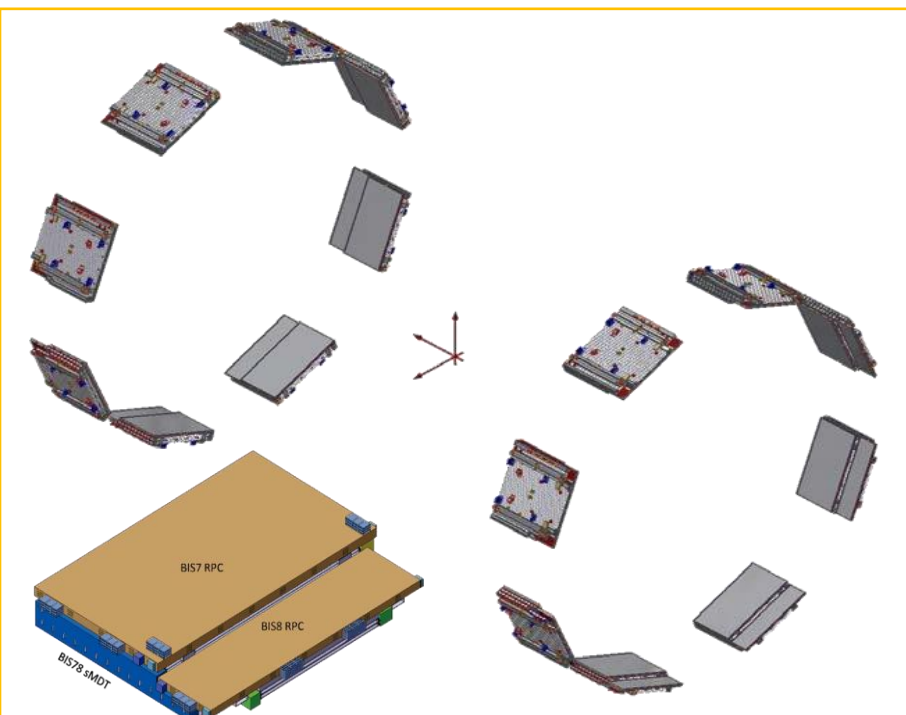


ATLAS sMDT experimental setup @ GIF++ facility

Elena Voevodina, Oliver Kortner, Gregor Eberwein

Max Planck Institut für Physik - Werner Heisenberg Institut (Munchin, Germany)



Main goal of the test

Goal of the new sMDT irradiation test

The main goal is to validate the performance of the new on-detector electronics components (**ASD and TDC chips**) together with the **small Monitored Drift Tube (sMDT)** detector technology



sMMDT setup requirement

Principle scheme of the ATLAS sMMDT experimental setup location @GIF++ bunker

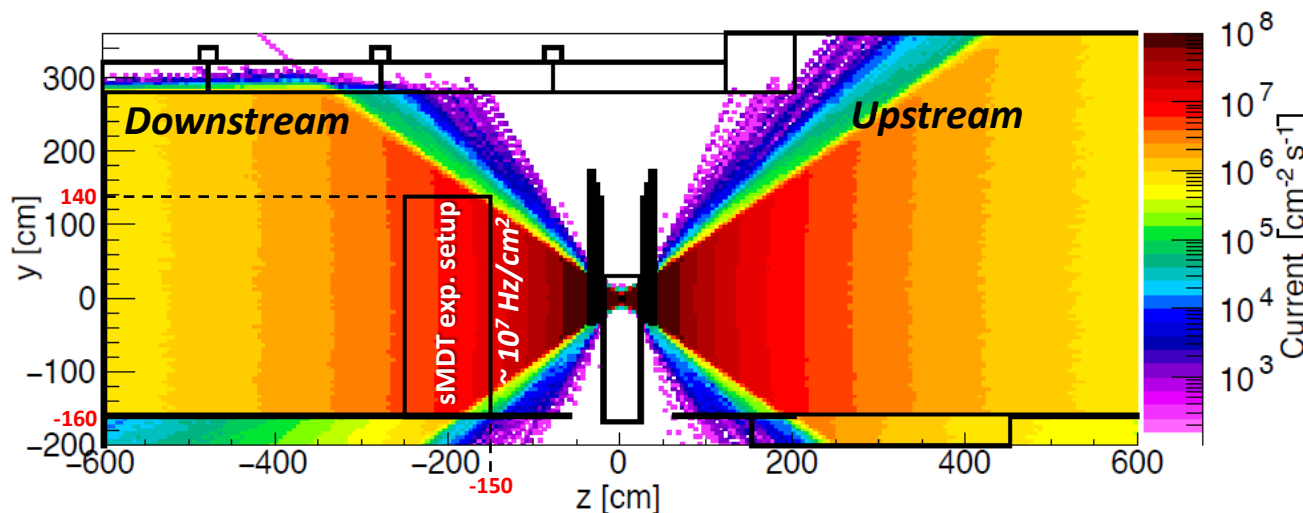
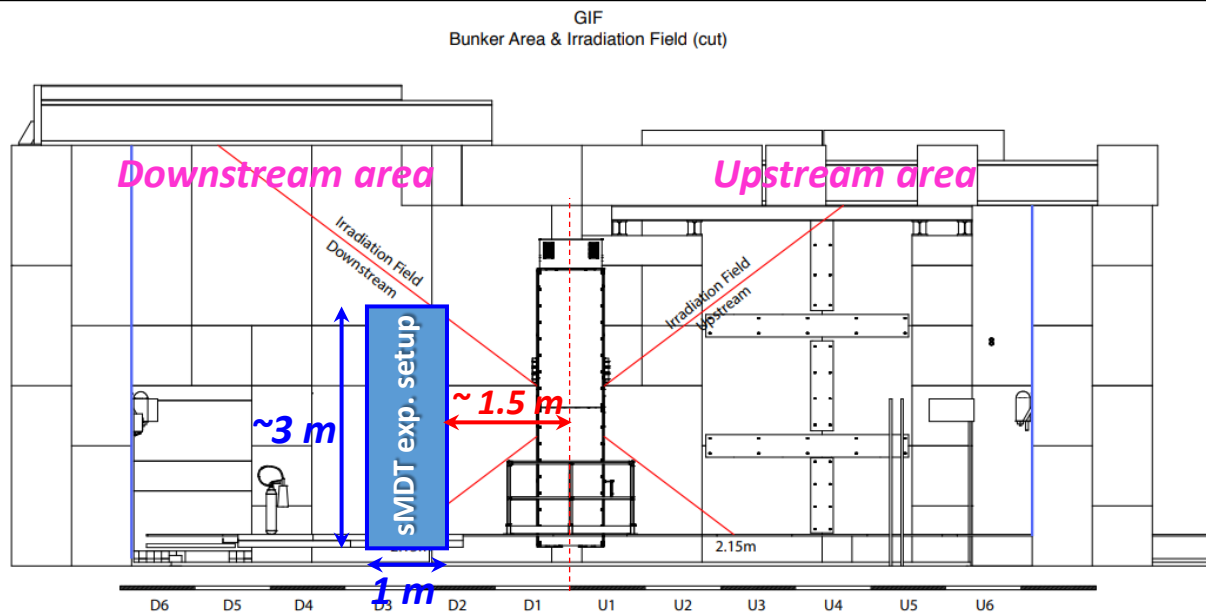
Space:

- Required space: **1 m** along of the beamline, **2 m** perpendicular to the beamline and **~ 3 m** in the height;

- ATLAS sMMDT setup has been designed to host up to 3 sMMDT chambers (1 full real size sMMDT detector with 1 m length of the drift tubes + 2 small sMMDT detector prototypes);

- ATLAS sMMDT experimental setup will be placed at **~1.5 m** from the source point (**D₂** position):

-> sMMDT detector prototype will be directly located front of the irradiator and will be operated under particle flux **~ 10⁷ Hz/cm²**.



Time:

- Irradiation window: **October 2020 – December 2021**
- > **Moun beam time** will be requested separately in **September/October 2020**

Services:

- All the services needed to run the sMDT experimental setup are already in place;
- The services (gas line, HV and LV power systems, cables, electronic crate, etc.) developed and installed for the previous setup will be re-used;
 - > *small adjustment of the sMDT gas line are required due to the different setup position.*
- Gas mixture **Ar/CO₂ (93/7)** – **NO flammable gas** will be used;
- Operating voltage: **2730 V.**