

The Forschungs- und Technologiezentrum Detektorphysik (FTD) – A new facility for future (and current) detector development at the University of Bonn

The new Research and Technology Center Detector Physics (Forschungs- und Technologiezentrum Detektorphysik - FTD) has been handed over in July 2021 to the University of Bonn. The FTD offers about 2000 m² of highly specialized laboratory space and 900 m² of office space for cutting-edge research in detector physics. The new building pools the expertise of currently 13 working groups at Bonn University, developing instrumentation for large experiments like ATLAS, ALICE, but also for smaller-scale experiments at the local accelerators ELSA and cyclotron. The detectors developed at the FTD include semiconductor pixel detectors, micropattern gaseous detectors, photonic devices, scintillating fibers and high-resolution calorimeters. Apart from individual laboratory space assigned to each working group, the FTD provides common infrastructure that is open (upon application) to both internal and external users. The common infrastructure contains an Underground Lab, a construction hall that allows for large and heavy detector setups, and a clean room facility of about 360 m² that offers facilities for nano- and microstructuring of materials, micro-bonding and fine-pitch interconnections, and for the assembly of sensitive detector modules. The cleanroom of the FTD possesses two yellow light areas with wet benches and other equipment needed for photolithography and the handling of organic and anorganic substances. Here, the production of microstructures like GEM foils and InGrids is planned. One big asset of the FTD is that the production of the devices, their quality control as well as their application is housed in one building. The facilities at the FTD are complemented by the possibility to use two local accelerators for detector tests. Therefore the FTD and its accompanying research infrastructure offers an unique opportunity to develop, commission and investigate novel types of particle detectors. In the talk a selection of the broad research activity at the FTD will be presented.