PRISMA

DETECTOR LAB

The TRB3 Read-out Platform – from Calorimeter Read-out to Online Beam Monitoring

Adrian Rost

TU-Darmstadt / GSI

January 10th 2019 at 14:00

MITP Seminar Room, Staudinger Weg 9

Building 2413 Room 02.430 (2nd floor – West)

The TRB3 (Trigger Readout Board - Version 3) family which is actively developed at GSI contains a versatile FPGA (Field Programmable Gate Array) platform. A TDC (Time to Digital Converter) is implemented in FPGA technology with 10 ps precision. Several front-end electronics, a complete set of data acquisition and control software is available. The platform is in use by several experiments all over the globe. In this talk the main concepts and the performance of the TRB-platform as well as several applications will be discussed. Main focus will be put on the read-out concept of the HADES electromagnetic calorimeter which is located at GSI. It will also address the possibility to use the TRB-platform for online beam monitoring purposes.

Adrian Rost studied Physics at TU Darmstadt where he graduated in 2016. Currently he is doing his Ph. D. studies in the Research Training Group RTG 2128 AccelencE (Accelerator Science and Technology for Energy-Recovery Linacs), which is a cooperation of the Institutes for Nuclear Physics of TU Darmstadt and of the Johannes Gutenberg University Mainz. His research interests are diamond based beam detectors and read-out electronics development. He is involved in the calorimeter projects of the HADES and CBM Experiments at GSI.