

# The ATLAS Forward Proton Real-Time Time-of-Flight Trigger and Trigger Decoder for LHC Run 3

- ▶ A completely new Trigger System mainly consisting of Digital Trigger Module and Trigger Decoder was designed in order to select the interesting events detected by the ATLAS Forward Proton Time-of-Flight detector.
- ▶ The Digital Trigger Module and Trigger Decoder bring the extensive information concerning the individual train activity to the Central Trigger Processor and therefore to the event data structure itself.
- ▶ Performed tests proved 100% efficiency of selecting the events in accordance with the chosen criteria.
- ▶ The circuitry was designed and tested as a radiation hardened and the expected lifetime in a radiation harsh environment is longer than three years.
- ▶ Ongoing works on the system integration of the Trigger System containing mainly the Digital Trigger Module and Trigger Decoder promise further improvements in research of diffractive p-p collisions.