

Performance and design of ATLAS trigger in p+Pb and Pb+Pb collisions

The peak rate of interactions in high luminosity heavy ion runs in 2015 and 2016 was well above the ATLAS maximum recording rate of around 1kHz. Therefore an active trigger selection is applied relying partly on algorithms used for selection during pp data taking and a set of algorithms dedicated solely for heavy ions. They are used to collect enhanced samples of high multiplicity, ultra-peripheral and azimuthally asymmetric collisions. Contrary to the slowly changing underlying event conditions in nominal pp collisions, the underlying event in heavy ion collisions varies from event to event. Therefore specialised approaches have been developed for events containing hard probes to assure even performance in the environment of peripheral and central events. This poster presents an overview of the strategy and performance of the different triggers used during the Pb+Pb and p+Pb runs.

Preferred Track

Future Experimental Facilities, Upgrades, and Instrumentation

Collaboration

ATLAS

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