



Contribution ID: 28

Type: **not specified**

Trigger & Data Acquisition at FCC-hh

Thursday, April 12, 2018 11:30 AM (20 minutes)

Data acquisition has always been a significant challenge at a hadron collider. The combination of high luminosity and finely segmented detectors yields data rates that far exceed what can be stored permanently. The problem has traditionally been solved using a trigger system, that performs event selection online. In many cases, the trigger system has relied on dedicated detectors, or detectors designed with the trigger in mind. Based on the state of the art in the field, we present the nature of the trigger challenge for FCC-hh. Possible trigger architectures will be discussed, together with relative rates and performance of selected physics benchmark channels.

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Session Classification: FCC-hh physics & experiments

Track Classification: FCC-hh Phy/Exp