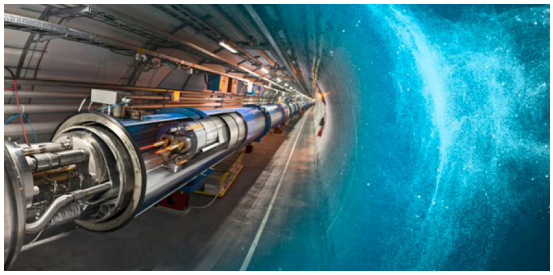

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The ATLAS Inner Detector trigger design and performance during Run 2 data taking from the 13 TeV LHC collisions

Wednesday, 23 March 2022 15:00 (15 minutes)

The ATLAS Inner Detector (ID) trigger is a crucial component in the ATLAS trigger system, and plays a pivotal role in the high quality reconstruction of the physics objects - electron, muon, tau and b-jet candidates. These objects are fundamental for physics studies and analyses at ATLAS. The ATLAS ID trigger was redesigned during 2013-2015 shutdown, this provided the opportunity to improve its performance during Run 2 data taking from the 13 TeV Large Hadron Collider (LHC) collisions. The design and performance of the ATLAS ID trigger during Run 2 data taking from the 13 TeV LHC collisions are discussed, as well as suggested plans and developments during 2019-2021 shutdown for the start of Run 3 and beyond. The results presented here illustrate the superb performance of the ATLAS ID trigger, even in the extreme number of proton-proton interactions per bunch-crossing (pile-up) conditions of Run 2 data taking from the 13 TeV LHC.

Primary author: ZERRADI, Soufiane (Hassan II university, faculty of science Ain Chock)

Co-author: Prof. BENCHEKROUN, Driss

Presenter: ZERRADI, Soufiane (Hassan II university, faculty of science Ain Chock)

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