

ALICE Fast Interaction Trigger

Friday 19 July 2024 08:48 (18 minutes)

The ALICE Fast Interaction Trigger (FIT) has been working since beginning of LHC Run 3, demonstrating excellent performance. FIT serves as an interaction trigger, online luminometer, initial indicator of the vertex position, and the forward multiplicity counter. In the offline mode, it provides collision time, collision centrality and interaction plane. It also selects diffractive and ultra-peripheral heavy-ion collisions.

FIT comprises three detectors, FT0, FV0 and FDD, based on different technologies. The sensors are assembled into five groups placed at forward ($2.2 < \eta < 6.3$) and backward ($-7.0 < \eta < -2.1$) rapidity. Detector readout is realized with the fast front-end electronics (FEE), which allow recording events every 25 ns. The FIT online trigger generation takes only 200 ns.

This talk will present the FIT performance in Run 3, including trigger and event selection studies. Moreover, the FEE upgrade program for high luminosity measurements in Run 4 will be discussed.

Alternate track

I read the instructions above

Yes

Primary author: MELIKYAN, Yury (Helsinki Institute of Physics (FI))

Co-author: ALICE, Collaboration

Presenter: MELIKYAN, Yury (Helsinki Institute of Physics (FI))

Session Classification: Operation, Performance and Upgrade (incl. HL-LHC) of Present Detectors

Track Classification: 12. Operation, Performance and Upgrade (incl. HL-LHC) of Present Detectors