Contribution ID: **379**   Type: **Oral**

A 30 MHz software trigger and reconstruction for the LHCb upgrade

Tuesday 12 March 2019 18:20 (20 minutes)

The first LHCb upgrade will take data at an instantaneous luminosity of 2E33cmˆ{-2}sˆ{-1} starting in 2021. Due to the high rate of beauty and charm signals LHCb has chosen as its baseline to read out the entire detector into a software trigger running on commodity x86 hardware at the LHC collision frequency of 30MHz, where a full offline-quality reconstruction will be performed. In this talk we present the challenges of triggering in the MHz signal era. We pay particular attention to the need for flexibility in the selection and reconstruction of events without sacrificing performance.

Presenter: FITZPATRICK, Conor (Ecole Polytechnique Federale de Lausanne (CH))

Session Classification: Track 1: Computing Technology for Physics Research

Track Classification: Track 1: Computing Technology for Physics Research