

Improvements to and Functionality Testing of ATLAS Online Trigger Rate Prediction Tool in Preparation for Run 3

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The ATLAS detector at the LHC is subject to millions of events per second. ATLAS employs a trigger system to select events of high-importance for offline storage. To ensure the triggers are working as expected, we use a software tool called xMon, which has been in operation in the ATLAS control room for a decade. xMon works by predicting the trigger rate based on offline fits from previous runs, which can then be compared to the live trigger rates at ATLAS. We discuss the recent developments to prepare xMon for Run 3: (1) formatting the new visual interface hosted within the Grafana TRP dashboard, (2) analysis of results from pilot beam data, (3) addition of a bunch factor callback function.

Career stage

Undergraduate student

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