

# Tagging and Probing : Measuring muon trigger efficiencies with ATLAS

*Saturday, 15 February 2025 11:15 (15 minutes)*

In order to perform searches for high-precision measurements and searches for new phenomena, experiments must account for differences between simulation and collected data. The LHC collects a huge amount of data every second, but only some of it is useful for various kinds of analyses. One way of filtering out useful events is by the usage of a sophisticated triggering system. In order to properly analyse data, it is crucial to accurately determine and model the efficiencies of these triggering systems. The “tag-and-probe” method is one way of doing that, through so-called “efficiency scale factors”. This talk will discuss how this method is used to calculate efficiency scale factors for the ATLAS experiment’s muon trigger system, showing results from the latest data-taking period. These factors are used in a wide variety of analyses, some examples will be given.

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