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Photon identification with the ATLAS detector

Good photon identification capabilities are important for many aspects of the ATLAS physics program, from Higgs boson measurements to new physics searches. The identification of prompt photons and the rejection of background coming mostly from photons from hadron decays relies on the high granularity of the ATLAS calorimeter.

Several methods are used to measure with data the efficiency of the photon identification requirements, to cover a broad energy spectrum. At low energy, photons from radiative Z decays are used. In the medium energy range, similarities between electrons and photon showers are exploited using $Z \rightarrow e\bar{e}$ decays. At high energy, inclusive photon samples are used.

The results of these measurements performed with pp collisions data at $\sqrt{s}=13$ TeV in 2016 (2015) corresponding to an integrated luminosity of 33.9 (3.1)fb⁻¹ of $\sqrt{s}=13$ TeV pp are presented.

Experimental Collaboration

ATLAS

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