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Light flavour mistag calibration for ATLAS b-jet identification algorithms ANGELA BURGER, Oklahoma State University-Stillwater, ATLAS COLLABORATION — Many analyses in ATLAS rely on the identification of jets containing b-hadrons (b-jets) with high efficiency while rejecting more than 99% of non-b-jets. Identification algorithms, called b-taggers, exploit b-hadron properties like their long lifetime. Recently developed ATLAS b-taggers using neural networks outperform previous b-taggers by a factor of two in terms of light jet rejection. Nevertheless, contributions from light jet mistags can be non-negligible in certain analyses phase spaces and a precise measurement of the light jet mistag rate in data and simulation to correct the rate in simulation is important. Due to the high light jet rejection of the b-taggers, the mistag rate cannot be measured directly but rather by means of a modified tagger, designed to decrease the b-jet efficiency while leaving the light jet response unchanged. This so-called "negative tag method" has been improved recently: uncertainties are reduced by constraining non-light flavour contribution with a data-driven method and the dominant systematic uncertainty has been reduced from 10-60% to 5-20% due to improved inner detector modeling. The method and a selection of results released recently to the ATLAS collaboration using pp collisions at $\sqrt{s} = 13$ TeV are presented.

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