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Jet energy resolution measurement from dijet events at CMS: status and novel methods

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Jets are crucial for high energy physics and part of many analyses at the CMS experiment at the LHC. A well calibrated jet energy resolution (JER) is mandatory for both measurements and searches to reach a high precision. This talk presents the latest JER measurements at the CMS experiment for data collected in the scope of the LHC data taking periods Run 2 and Run 3. These results are measured with a well established method that exploits the transverse momentum balance of the two most energetic jets per event. Furthermore, a novel technique based on the missing transverse momentum (MET) projection fraction is introduced, that is more robust against the increasing number of additional proton-proton interactions (pileup) which heavily affect jets and MET.

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