Performance of MET in CMS

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The results of comprehensive studies of missing transverse energy as measured by the CMS detector are presented [1]. The missing transverse energy reconstruction from the combination of all the sub-detector information using the particle-flow technique is described. A particular challenge of missing energy reconstruction follows from the high pileup environment. In this talk, the scale and resolution of the missing transverse energy measurement are validated using vector boson and dijet events, and severe mis-measurements due to instrumental effects are studied. State of the art techniques dealing with missing energy reconstruction in the high pileup are also presented. We also describe a novel method to calculate the significance of missing transverse energy measured in an event.

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References