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Forward-Central Jet Correlations

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The azimuthal correlation between forward and central jets is measured in proton–proton collisions at the LHC, at the centre-of-mass energy of 7 TeV. The forward jet is reconstructed in the hadronic forward (HF) calorimeter in the pseudorapidity region 3.2 < $|\eta|$ < 4.7, while the central jet is limited to $|\eta|$ < 2.8. At least one central jet and one forward jet are required to have transverse momentum of pT > 35 GeV. The azimuthal angle between the jets is measured for different separations in pseudorapidity, with the largest separation being $\Delta \eta$ = 7.5 units. The analysis is carried out for inclusive dijet events and for two subsamples, one where an additional jet is required between the forward and the central jet, and one where the additional jet is vetoed. Comparisons between data and several different Monte Carlo models and tunes show a large sensitivity to the modeling of QCD radiation.

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