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Electroweak Production of Vector Bosons and Jets at CMS

The study of the associated production of vector bosons and jets provides an excellent opportunity to explore the electroweak (EW) aspects of their production. Recent results from the CMS Collaboration on the differential cross sections of vector bosons produced in association with jets at 13 TeV center-of-mass energy will be presented. Differential distributions as a function of various kinematical observables are measured and compared with theoretical predictions up to NNLO. Final states with a vector boson and jets are also useful for studying EW-initiated processes, such as the vector boson fusion production of a photon, Z, or W boson, accompanied by a pair of energetic jets with large invariant mass. These processes serve as sensitive probes for new physics, searching for deviations from the Standard Model that can be parametrized in a dim-6 EFT framework.

Secondary track

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