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Production of vector bosons and jets at CMS

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The production cross section of highly boosted vector bosons ($V = W, Z$) recoiling against jets is studied, with CMS data, differentially as function of the transverse momentum and angular correlations of the final state particles. The mechanism of production of heavy-flavoured mesons, containing b or c quarks, in association with vector bosons, W or Z, in the Standard Model is only partially understood. The study of events with one or two well-identified and isolated leptons accompanied by b-jets or b-mesons is therefore crucial to refine the theoretical calculations in perturbative QCD, as well as validate associated Monte Carlo techniques. A measurement of the WZ and ZZ production cross sections in proton-proton collisions at 8 TeV in final states where one Z boson decays to b-tagged jets, while the other gauge boson, either W or Z, is detected through its leptonic decay is also presented.

Summary

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