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Production of Z and W in association with heavy quarks at CMS

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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 secondary vertices is therefore crucial to refine the theoretical calculations in perturbative QCD, as well as validate associated Monte Carlo techniques. The deep understanding of these processes is furthermore required by Higgs and BSM analyses with similar final states. Using the LHC proton-proton collision data collected in 2010 and 2011 at a centre of mass energy of 7 TeV by the CMS detector, preliminary measurements of the Z+b(b) cross sections and angular correlations are presented. Finally, the study of the W+c production rate with respect to the W charge and W+light jets rates allows to probe the strange quark content of the proton. These results are also presented.

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