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## **W,Z + jets production with CMS detector (15' + 5')**

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We present a study of jet production in association with W and Z bosons in pp collisions at a centre-of-mass energy of 7 TeV using 36 inverse-picobarns of data collected in the CMS experiment. The production of vector bosons with jets provides a stringent and important test of perturbative QCD calculations, and is an important background in searches for new physics and for studies of the top quark. We report the normalized jet multiplicity distributions as well as the ratios  $\sigma(V + (\geq n + 1)\text{jets})/\sigma(V + (\geq n)\text{jets})$  with a jet threshold of 30 GeV. We also present a measurement of the polarization of W bosons produced with large transverse momentum, establishing that W bosons produced in association with at least one hard jet are predominantly left-handed, as predicted by the Standard Model. Finally we report the observation of the production of the Z boson in association with at least one b-quark jet and a measurement of the fraction of b-jets over light-quark-jets in Z events.

**Presenter:** REECE, William Robert (CERN)

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