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Measurement of diffractive and exclusive processes with the ATLAS detector

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The ATLAS collaboration has carried out a study diffractive dijet production at 7 TeV pp collisions at the LHC, i.e. events with a hadronic system containing at least two jets in addition to a large region of pseudorapidity devoid of hadronic activity. The data distributions are compared with Monte Carlo models and the rapidity gap survival probability has been estimated in the kinematic region with high diffractive contribution.
Prospects for exclusive jet production studies with the forward proton tagging capability of the AFP sub-detector of ATLAS will be discussed. A first look at data taken jointly with the ATLAS and LHCf detectors in a p+Pb run will also be shown.
In addition the measurement of the exclusive gamma+gamma -> ll production cross-section in proton-proton collisions at a centre-of-mass energy of 7 TeV has been carried out.

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Session Classification: Diffraction and Pomeron

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