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Measurement of the Underlying Event Activity for p-p collisions with $\sqrt{s} = 7$ TeV and 0.9 TeV at CMS[1] MOHAMMED ZAKARIA, University of Florida, CMS COLLABORATION — A measurement of the underlying activity in scattering processes with a p_T scale of several GeV/c is performed on proton-proton collisions at $\sqrt{s} = 7$ TeV and 0.9 TeV using corrected data collected by the CMS experiment at the LHC. The production of charged particles is studied with reference to the azimuthal direction of the leading track with $|\eta| < 0.8$ and $p_T > 0.5$ GeV/c. A significant increase of the average number of charged particles and of the average scalar Σp_T is observed followed by a saturation at large values of the p_T scale. A significant growth of the activity in the transverse region is observed when increasing the energy from $\sqrt{s} = 0.9$ TeV to $\sqrt{s} = 7$ TeV. Various PYTHIA based QCD-inspired models are compared with the data after full detector simulation.

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