

Abstract Submitted
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Prospects for measuring the Underlying Event and Minimum Bias at the LHC KHRISTIAN KOTOV, University of Florida, UE&MB@CMS COLLABORATION — We present in proton-proton collisions prospects of the studies of “minimum bias” collisions and of the “underlying event” in hard collisions with the CMS detector at the LHC proton collider under constructions. The “underlying event” accompanies every hard 2-to-2 scattering process in proton collision and consists of proton remnants and initial and final state radiation. Events collected with a trigger that is not very restrictive are referred to as minimum bias events. We measure particle multiplicity and transverse momentum density in the “transverse” region of charged particle jet production and in the central region of Drell-Yan muon-pair production. These observables help to find parameters for phenomenological models of non-perturbative QCD implemented in many event generators. The LHC will reach new energy and luminosity frontiers and will offer a unique opportunity to study the “underlying event” and “minimum bias” collisions up to the TeV scale. The CDF and D0 groups at the Tevatron have made significant contribution to this study at lower energy scales. We compare our studies based on simulation to their results.

Khristian Kotov
Graduate Student

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