Abstract Submitted
for the SES12 Meeting of
The American Physical Society

Threshold resummation in direct photon production. NOBUO SATO[1], Florida State University — The precise knowledge of momentum distribution inside nucleons plays a key factor for the physics of hadron-hadron collisions such as LHC. In particular, the process of direct photon production with high transverse momentum can be used to constrain the momentum distribution of gluons inside nucleons because of the dominant contribution from Compton scattering $qg \to \gamma q$. Over the last three decades, this process has been extensively measured by several experiments at different energies. The comparison between the experimental data and the theoretical predictions has shown satisfactory agreement at high energies and inconsistencies at low energies, leading to the necessity to improve the theoretical predictions. This talk will discuss one kind of improvement called "threshold resummation" and its impact on predictions of the global set of direct photon data.

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Date submitted: 18 Sep 2012 Electronic form version 1.4