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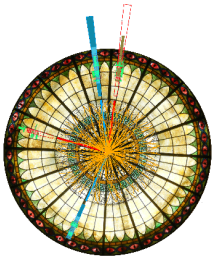

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# On the of physical DGLAP evolution of structure functions and its use for detecting saturation effects

*Wednesday, 29 April 2015 16:15 (25 minutes)*

We revive the idea of using physical anomalous dimensions in the QCD scale evolution of deep-inelastic structure functions and their scaling violations and present a detailed phenomenological study of its applicability up to NNLO. In particular we are interested in the use of physical DGLAP evolution as a tool to detect possible deviations from linear DGLAP evolution at small x which signal the onset of a non-linear regime, characterized by large and saturated parton densities. Such applications are of particular interest for future DIS experiments such as the LHeC and EIC projects, which aim at a detailed study of the transition of the dilute DGLAP regime to the saturated, nonlinear regime which is expected to manifest itself at small x and/or large nuclei.

**Primary author:** HENTSCHINSKI, Martin (Institute for Nuclear Science, UNAM)

**Presenter:** HENTSCHINSKI, Martin (Institute for Nuclear Science, UNAM)

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