universität wien

EINLADUNG

im Rahmen des Teilchenphysikseminars

zum Vortrag

von

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Universität Wien

über

"Small-x Resummation from Effective Field Theory"

Abstract:
Over the last few decades a remarkable progress has been made in describing the QCD phenomenon perturbatively in the context of collider physics. However, there still remains one area that has been very challenging to tackle, both in terms of achieving the desired accuracy and improving our understanding of underlying physics: the forward scattering regime. In the limit where the incoming colliding particles barely graze each other and continue along their original directions one finds logarithmic enhancement of the cross section which is of a very different nature than that encountered in typical collider situations. In this talk will focus on forward scattering in the case of Deep Inelastic Scattering (DIS), where this region is referred to as the "small-x" limit. I will go through our attempt to calculate the DIS cross section in this limit using the tools of Soft Collinear Effective Theory (SCET). SCET has proven successful in describing a wealth of collider phenomena, but only until recently we have been able to develop the formalism needed to describe forward scattering. I will describe our calculation for Leading Log-x resummed cross section and compare with the classic resummation formula of Catani and Hautmann (1993) obtained using a completely different approach, and highlight the advantages of using our formalism. (This will be the last concluding talk in the series of small-x talks that I have informally given so far.)

Zeit: Dienstag**,** 13.3.2018, 16:15

Ort: Erwin Schrödinger-Hörsaal, Boltzmanngasse 5, 5. Stock

gez**.:** A. Hoang, H. Neufeld