universität wien

EINLADUNG

im Rahmen des Teilchenphysikseminars

zum Vortrag

von

Christoph Regner

(Univ. Wien)

über

"Renormalons, R-evoultion and Renormalon Sum Rule"

Abstract:
Perturbation series in QCD are generally known to be divergent and can at best be considered asymptotic. The asymptotic behaviour is caused by contributions from small and large loop momenta in perturbative calculations and manifests itself in poles of the corresponding Borel transform. These poles are usually referred to as renormalons and lead to ambiguities in the definition of perturbative series. In this talk we discuss the implications of these ambiguities and investigate how well renormalon ambiguities can be quantified. Furthermore it will be shown how the introduction of a new scale R can be used to improve the poor convergence behaviour of perturbative series suffering from renormalon ambiguities. From the solution of renormalization group equations with respect to the scale R (R-evolution), one can deduce an analytic all-order expression for the Borel transform of perturbative series that can be used as a test for renormalon ambiguities. We will analyze this Borel transform in the context of the large-β_0 approximation.

Zeit: Dienstag, 8.1.2019 **16:15**

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

gez**.:** A. Hoang, S. Plätzer, M. Procura