Fakultät für Physik
DER UNIVERSITÄT WIEN
Arbeitsbereich Teilchenphysik
A-1090 WIEN, BOLTZMANNGASSE 5, AUSTRIA

universität wien

EINLADUNG

im Rahmen des Teilchenphysikseminars

zum Vortrag

von

Raol Röntsch

über

„Infrared Singularities and the Precision Frontier“

Abstract:

The results from the first decade of operation of the Large Hadron Collider (LHC) oblige the particle physics community to undertake a high precision program in order to fully exploit the large amount of data expected over the rest of the lifetime of the LHC.
This program will uncover further details of the mechanism of electroweak symmetry breaking, and may point towards signs of physics Beyond the Standard Model. A key ingredient in precision theoretical calculations for the LHC is the treatment of infrared singularities in fixed-order calculations. Along with my collaborators, I have proposed and developed a new method of handling such singularities, the nested soft-collinear subtraction scheme. This approach fully exploits the universal singularity structures of QCD amplitudes to formulate a straightforward procedure of subtracting IR singularities, and results in a subtraction scheme that is both fully local and fully analytic. I will discuss this method, outlining the progress towards extending it to arbitrary hadroproduction processes, and will illustrate its flexibility with some examples from LHC studies, before discussing future plans and directions.

Zeit: Montag**,** 02.12.2019 **16:15**

Ort: Kleiner Seminarraum, Boltzmanngasse 5, 5. Stock

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