

EINLADUNG

im Rahmen des Teilchenphysikseminars

zum Vortrag

von

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"Higher order resummation for LHC Higgs production"

Abstract:

It has been nearly eleven years since the announcement of the discovery of the Higgs boson, and since then many properties of the new particle have been established which seem to be consistent with the Standard Model prediction.

The current precision of measurement in the Higgs sector in general, however, is only of the order of 10%. I will discuss improvements to the precision of resummed calculations in Soft-Collinear Effective Theory which aim to improve the state of affairs. I will first present results at N3LL'+aN3LO for the transverse momentum spectrum of the Higgs in heavy-quark initiated production, a process useful to constrain heavy quark Yukawa couplings.

Secondly, I will show predictions for jet veto resummation in the Higgs+jet process with NNLL'+NNLO uncertainties. These will facilitate comparison of theory with data via the Simplified Template Cross Section (STXS) framework.

I will discuss future developments for both calculations, such as the extraction of the Yukawa couplings and the inclusion of Theory Nuisance Parameters (TNPs) which improve the estimation of missing higher order terms.

Zeit: Dienstag, 16.05.2023, 16:15 h

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

Join Zoom Meeting - Meeting ID: 933 4269 3866 Passcode: 185096 https://univienna.zoom.us/j/93342693866?pwd=aUpTR0VJNUhJY2Q0ajdaKzI1YWVBQT09

gez.: A. Hoang, A. Broggio