



# EINLADUNG

im Rahmen des Teilchenphysikseminars

zum Vortrag von

**Christoph REGNER**  
(University of Vienna)

über

***“Endpoint Factorization for Inclusive Semileptonic Top Quark Decays in Off-Shell Boosted Top Quark Production“***

**Abstract:**

Existing In this talk we discuss a factorization for the  $e^+e^- \rightarrow 2$ -jettiness distribution in the resonance region for boosted top quark pair production where the top quark decays semileptonically. We focus on measurements of leptonic distributions in the endpoint region where the bottom jet invariant mass is small. This multivariate distribution combines the known factorization theorems for inclusive dijet massive quark event-shapes in the resonance region and semileptonic heavy meson decays in the endpoint region. The novel ingredient in this factorization is an ultracollinear soft function that presents a differential generalization of the known bHQET inclusive jet function for the 2-jettiness factorization and, at the same time, a generalization of the known shape function for heavy meson decays, where the top quark state is defined through the jettiness measurement.

Due to the finite top quark width the ultracollinear soft function can be computed in perturbation theory.

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**Zeit: Dienstag, 11.6.2024, 16:15h**

**Ort: Erwin-Schrödinger-Hörsaal, Boltzmannngasse 5, 5. Stock**

**Zoom Meeting:**

Meeting ID: 933 4269 3866 Passcode: 185096

<https://univiennea.zoom.us/j/93342693866?pwd=aUpTR0VJNUhJY2Q0ajdaKzI1YWVVBQTO9>