



# EINLADUNG

im Rahmen des Teilchenphysikseminars

zum Vortrag

von

**Michael Rauch**  
(KIT)

über

***“Vector-Boson Fusion and Scattering“***

**ABSTRACT:**

Production of electroweak bosons via vector-boson fusion and scattering (VBF) is one of the main process classes to study at current and future runs of the LHC. Its double-DIS-like structure gives rise to the characteristic signature of two tagging jets in the forward regions of the detectors, and distinguishes it from QCD-induced processes, which exhibit much more central jet activity.

In this talk, we discuss the main features of the VBF process class, investigate the effects of combining NLO QCD results with parton-shower effects using the latest versions of VBFNLO 3 and Herwig 7, and look at the first NNLO QCD calculation in this process class, performed for VBF-H production.

VBF processes also allow to study the triple and, in particular, quartic gauge couplings and test them for new-physics effects. We show arising challenges like unitarity violation when adding anomalous contributions and discuss possible solutions.

**Zeit:** Dienstag, 12.12.2017, 16:15

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

gez.: H. Neufeld, S. Plätzer