PAUL SCHERRER INSTITUT

Particle Theory Seminar

L. Hosekova

Valencia

"Corrections to the Production of Two Lepton Pairs via Vector-Boson Fusion at the LHC"

Tuesday, September 11, 2012, 11:30

WBGA/B16

Abstract:

Higgs production via gauge boson fusion, due to its unique signature formed by two tagging jets in the forward and backward region of the detector, is one of the most important channels for discovery of the Higgs boson at the LHC and for exploring its properties. As most of the irreducible background originates from other gauge boson fusion processes sharing the same kinematical characteristics, it is desirable to analyze and understand these processes with accuracy that goes beyond the leading order. I show a method for calculating the next-to-leading-order QCD corrections to both resonant and non-resonant contributions to the vector boson fusion processes and present results for a class of processes associated with production of two W^+.