

PAUL SCHERRER INSTITUT



# Particle Theory Seminar

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“Resonances and Unitarity in Weak Boson Scattering at the LHC”

Thursday, January 22, 2009, 11:30 pm

WBGB/021

**Abstract:**

A crucial test of the Standard Model is the measurement of electroweak gauge-boson scattering. In this talk, I will describe a generic parameterization aimed at a realistic simulation of weak-boson scattering at the LHC. The parameterization implements resonances of all possible spin and isospin combinations, properly matched to the low-energy effective (chiral) Lagrangian, includes leading higher-order effects and contains a minimal unitarization scheme. The goal is to describe the first visible resonance at the LHC in a model-independent way, and use as little assumptions as necessary. The structure of the amplitudes is discussed, partonically as well as for an LHC environment. Full matrix elements for that approach will be compared to the effective W approximation that previously has been used for most WW scattering studies at hadron colliders.