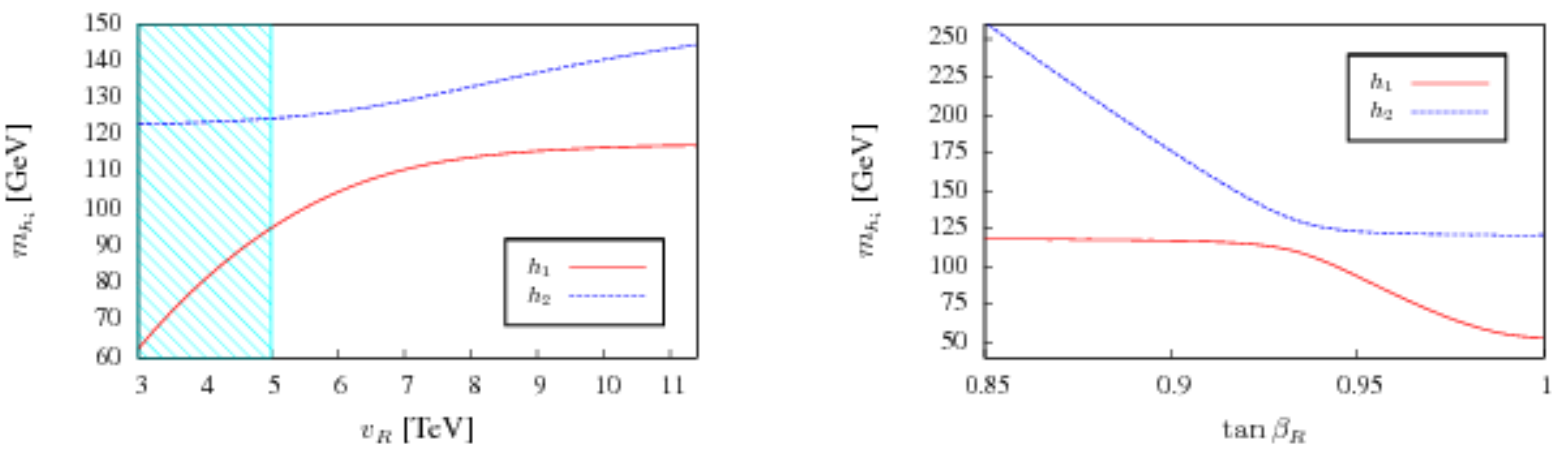
DESY
Physics Seminar

SUSY models with extended gauge symmetries in the light of m_h=125 GeV.

Werner Porod (University of Würzburg)

Tuesday, 27 August 2013, 16:45 h
Auditorium



We first discuss the motivation of supersymmetric models with extended gauge symmetries: origin of R-parity and neutrino physics. Several of these models contain additional tree-level and/or loop contributions to the mass of the lightest Higgs boson. This allows an explanation of the observed Higgs mass close to 125 GeV without the need to go to very specific parameter combinations as in the CMSSM. We will discuss different model variants in this context. Moreover we will show how supersymmetry changes the properties of an additional Z-boson and that the existing bounds can be substantially changed. Last but not least we will discuss how the LHC phenomenology of supersymmetric particles get altered in such models.

- **Coffee, tea and cookies will be served at 16:30h**
- **After the seminar there is a chance for private discussions with the speaker over wine and pretzels**