

## Impact of the Higgs discovery on two models of new physics

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A combined fit of electroweak precision data and data on Higgs decays lead to an exclusion of the Standard Model with a sequential fourth generation at the level of 5 standard deviations. In my talk I discuss the methodology of the corresponding statistical analysis, which involved so-called non-tested hypotheses. Then I discuss a supersymmetric GUT model, in which the atmospheric neutrino mixing angle affects  $b \rightarrow s$  transitions. The model, originally proposed by Chang, Masiero and Murayama, is substantially affected by the measurement of the mass of the lightest neutral Higgs boson and measurement of the reactor neutrino mixing angle.

**Author:** NIERSTE, Ulrich (Karlsruhe Institute of Technology (KIT))

**Presenter:** NIERSTE, Ulrich (Karlsruhe Institute of Technology (KIT))

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