

EWBG, alignment and searching for new scalar via triple top signature

Thursday 5 July 2018 12:00 (15 minutes)

The alignment phenomenon, that the 125 GeV h^0 boson so resembles the Standard Model Higgs boson, can be understood in a two Higgs doublet model without discrete symmetry. The Yukawa couplings ρ_{tt} and ρ_{tc} offer new probes for the extra scalar H^0 and pseudoscalar A^0 . We propose to search for $cg \rightarrow tH^0, tA^0$ followed by $H^0, A^0 \rightarrow t\bar{t}, t\bar{c}$, where same-sign dileptons could be the harbinger, with triple-top, in the signature of three leptons plus three b -jets, as confirmation. Discovery could touch upon the origin of baryon asymmetry of the Universe.

Primary author: Dr MODAK, Tanmoy (National Taiwan University)

Presenter: Dr MODAK, Tanmoy (National Taiwan University)

Session Classification: Beyond the Standard Model

Track Classification: Beyond the Standard Model