



MEETING OF THE AMERICAN PHYSICAL SOCIETY DIVISION OF PARTICLES AND FIELDS

Contribution ID: 414

Type: **Presentation**

## Current status of MSSM Higgs sector with LHC 13 TeV data

*Wednesday, August 2, 2017 1:30 PM (18 minutes)*

ATLAS and CMS collaborations have reported the new results on Higgs search analyzing data from run II of LHC at 13 TeV. In this work we study the Higgs sector of the phenomenological Minimal Supersymmetric Standard Model, in the light of the new Higgs data presented at ICHEP 2016, on and above the existing Run-I data, and comment on their relative impacts. One of the major impact of the new data on the parameter space comes from the  $H \rightarrow \tau^+ \tau^-$  direct search limit which rules out the high  $\tan \beta$  regions more efficiently than the Run-I data. Secondly, we show that the latest result of the rare radiative decay of the  $B$  meson presented by the Belle collaboration at ICHEP 2016 constrains significantly the low  $\tan \beta$  and low  $m_A$  region of the parameter space than its previous value.

**Primary author:** Dr CHOWDHURY, Debtosh (INFN, Rome1)

**Co-authors:** Dr CHOUDHURY, Arghya (University of Sheffield); Dr BHATTACHERJEE, Biplob (CHEP, IISc); LAHIRI, Jayita (CHEP, IISc); Mr BARMAN, Rahool Kumar (CHEP, IISc); RAY, Shamayita (University of Calcutta)

**Presenter:** Dr CHOWDHURY, Debtosh (INFN, Rome1)

**Session Classification:** Beyond Standard Model

**Track Classification:** Beyond Standard Model