Contribution ID: **345** Type: **Parallel**

Observation of Y(4S) → eta'Y(1S) and Y(2S) → gamma eta_b(1S) at Belle

Thursday 5 July 2018 14:20 (15 minutes)

The hadronic transitions involving an eta meson, thoroughly studied by Belle, are the largest transitions from Y(4S) to the narrow bottomonia. The transition Y(4S)⟶η′Y(1S) yields insights on the quark content of the pseudoscalar mesons, and on the mechanism of heavy quark spin symmetry breaking, if compared with the eta transitions, We report the first observation of this transition, with the Y(1S) decay in a mu+mu- pair and the eta' decay in rho gamma or pi+pi-eta decay modes. The analysis is based on 497 /fb data collected on Y(4S) peak by Belle at the KEKB e+ e- collider. We also report on search for Y(2S) → gamma eta_b(1S) decay based on analysis of the inclusive photon spectrum of 24.7 fbˆ-1 of e+e- collisions at the Y(2S) center-of-mass energy with Belle. This result represents the first significant observation of this decay mode, and provides a new measurement of the eta_b(1S) mass and the branching fraction for this suppressed M1 transition. We also cover other measurements on bottomonia.

Primary authors: NISHIDA, Shohei (KEK); FULSOM, Bryan (Pacific Northwest National Laboratory)

Presenter: FULSOM, Bryan (Pacific Northwest National Laboratory)

Session Classification: Strong Interactions and Hadron Physics

Track Classification: Strong Interactions and Hadron Physics