Contribution ID: **19** Type: **Contributed Oral**

Dark Sector Physics with Belle II

Thursday, 9 May 2019 17:00 (15 minutes)

The Belle II experiment is a substantial upgrade of the Belle detector and will operate at the SuperKEKB energy-asymmetric e^+e^- collider. The design luminosity of the machine is 8×10^{35} cm^{-2}s^{-1} and the Belle II experiment aims to record 50 ab^{-1} of data, a factor of 50 more than its predecessor. From February to July of this year, the machine has completed a commissioning run, achieved a peak luminosity of 5.5×10^{33} cm^{-2}s^{-1}, and Belle II has recorded a data sample of about 0.5 fb^{-1}. Already this data set with specifically designed triggers offers the possibility to search for a large variety of dark sector particles in the GeV mass range complementary to LHC and dedicated low energy experiments but these searches will benefit from more data soon to be accumulated. This talk will review the state of the dark sector searches at Belle II with a focus on the discovery potential of the early data.

Funding Agency

INFN

Email

peruzzi@lnf.infn.it

Primary author: Prof. PERUZZI, Ida Marena (INFN-LNF)

Presenter: Prof. HEARTY, Christopher (U. British Columbia/IPP)

Session Classification: Parallel session 2

Track Classification: Flavor and the Higgs and Dark Sectors