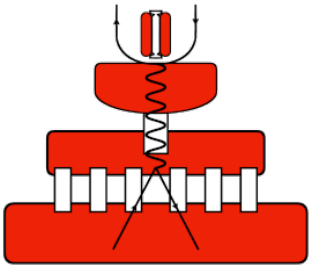

Contribution ID: **18** Type: **Talk**

Dark Sector Physics with Belle II

Friday, 13 September 2019 12:00 (20 minutes)

The Belle II experiment at the SuperKEKB energy-asymmetric e^+e^- collider is a substantial upgrade of the B factory facility at the Japanese KEK laboratory. 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 2018, the machine has completed a commissioning run; regular operation of SuperKEKB has started in March 2019: the machine has achieved a peak luminosity of 10^{34} cm^{-2}s^{-1}, and Belle II has recorded a data sample of about 7 fb^{-1}. Already this early 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; these searches will benefit from more data in the process of being 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, and show the first results

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Session Classification: New Physics