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The Dark Sector Physics at the Belle II Experiment

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The Belle II experiment is a next-generation upgrade of the Belle detector and will operate at SuperKEKB, an energy-asymmetric e^+e^- collider. The accelerator has completed the first phase of commissioning in 2016, and the first electron-positron collisions in Belle II are expected in 2018. The design luminosity of SuperKEKB is $8 \times 10^{35}\text{cm}^{-2}\text{s}^{-1}$ and the Belle II experiment aims to record 50 ab^{-1} of data, a factor of 50 more than the Belle experiment. This data set 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 profit both from the size of the Belle II data, and from specifically designed triggers for the early running phase of Belle II. This talk will review planned dark sector searches with a focus on the discovery potential of the first data.

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