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Dark sector and tau physics at Belle and Belle II

The Belle and Belle II experiment have collected samples of e^+e^- collision data at centre-of-mass energies near the $\Upsilon(nS)$ resonances. These data have constrained kinematics and low multiplicity, which allow searches for dark sector particles in the mass range from a few MeV to 10 GeV. Using a 365 fb^{-1} sample collected by Belle II, we search for inelastic dark matter. Using a 711 fb^{-1} sample collected by Belle, we search for $B \rightarrow h + \text{invisible}$ decays, where h is a π , K , D , D_s or p , and $B \rightarrow Ka$, where a is an axion-like particle. Furthermore, the combined Belle and Belle II samples contain approximately 1.5 billion $e^+e^- \rightarrow \tau^+\tau^-$ events, which we use to search for lepton-flavour violating decays and make precision measurements of τ properties. We review our latest τ measurements.

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