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Dark sector searches with tau-pair events at Belle and Belle II

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The existence and unknown nature of dark matter motivate dark sector searches at accelerators. The Belle and Belle II experiments enable dark sector searches in the sub-GeV mass region. We search for lepton-flavor-violating tau decays of type $\tau \rightarrow \ell\alpha$, where $\ell = e, \mu$ and α is an invisible particle. We also search for the existence of a heavy neutrino in tau decays. Finally, we present a recent search for a dark, leptophilic scalar particle produced in association with $\tau^+\tau^-$ pairs at Belle.

Name of collaboration or list of co-authors

Belle and Belle II

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