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Search for new physics in kaon decay

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Rare kaon decays are among the most sensitive probes of both heavy and light new physics beyond the Standard Model description, thanks the high precision of the Standard Model predictions, the availability of very large datasets, and the relatively simple decay topologies. The NA62 experiment at CERN has reported the first observation of the ultra-rare K+ –> pi+nunu decay, and is collecting data towards a 10% measurement of the decay rate. A plan for a comprehensive program to study K+ and KL rare decays at CERN beyond NA62 is currently taking shape. The KOTO experiment at J-PARC is approaching the SM sensitivity to the ultra-rare KL –> pi0nunu decay, and the next step of the KOTO program has been proposed. Both NA62 and KOTO experiments experiments pursue broad rare-decay and hidden-sector physics programs. Recent results and future plans for kaon experiments are discussed.

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