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New physics searches in accelerator-based neutrino experiments

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Neutrino beams offer an ideal environment to discover new particles or unveil new interactions. From searching for sterile neutrinos or heavy neutral leptons to seeking dark matter interactions, there is a wide range of new physics topics that can be probed by accelerator-based neutrino experiments. After reviewing the current scientific landscape for searches of physics beyond the standard model and presenting the most recent results from short- and long-baseline neutrino experiments, I will discuss the prospects for the next generation of experiments.