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### **Sterile Neutrino Experiments I: Accelerator-based**

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The Standard Model is the theory that describes the fundamental constituents of matter and their interactions. Despite its great success, there still exists evidence for a wide range of phenomena, which lie outside the framework of the Standard Model. Among these, neutrino flavor oscillations hold great promise to bring insight to the field towards a theory that transcends the Standard Model. The discovery of light, sterile neutrinos that mix with the three active neutrino flavors and modify the standard three-neutrino oscillation probabilities in vacuum and matter would be a major breakthrough for the field and contribute to our overall understanding of neutrino mass and mixing. Current indications for light sterile neutrinos come from a variety of experiments reporting anomalies. The accelerator-based LSND and MiniBooNE experiments, for example, reported an excess of electron-type neutrinos over short baselines, which if interpreted as due to  $\nu_\mu \rightarrow \nu_e$  (or  $\bar{\nu}_\mu \rightarrow \bar{\nu}_e$ ) oscillations, would imply the existence of a fourth light neutrino mass state. On the other hand, null results from other accelerator-based neutrino oscillation experiments searching for sterile neutrinos have put constraints on the possible existence of these particles. This talk will review the accelerator-based searches for light, sterile neutrinos as well as the prospects for confirming or refuting their existence in the coming years.