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Rare Isotope Traps and Prospects for Fundamental Interaction Studies

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A number of useful tests of the standard model exhibit greatly enhanced sensitivities to new physics when performed with unstable nuclei, especially Schiff moment (electric dipole moment) and parity violation measurements. Other tests, such as beta decay correlation experiments must by necessity be performed on unstable species. By combining techniques of nuclear and atomic physics, it is possible to execute experiments of exquisite sensitivity on these unstable isotopes, and search for physics beyond the standard model even in a low energy setting. Many of these experiments are limited by atom number and so greatly benefit from intense sources of rare isotopes. A brief overview of the topic is presented, with special focus on Schiff moment searches.