

Laser Spectroscopy in Nuclear Physics

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There are few properties of atomic nuclei more fundamental than their shape, size and spin. One thing that is of great interest to nuclear physicists is how these properties evolve as you move away from the 300 or so stable isotopes that are naturally found on earth to the more extremes of the nuclear chart. Many different methods are commonly used in order to probe these changes; however, the most sensitive methods utilize the atomic electrons which surround each nucleus in order to form an atom. Using high precision laser spectroscopic techniques to probe this atomic structure it is possible to extract minute changes in the distribution of charge within the nucleus. In this talk I will cover some of the techniques commonly used as well as results from a variety of different regions of the periodic chart.