

Medium-mass nuclei from chiral effective field theory interactions

Monday, June 10, 2013 11:30 AM (30 minutes)

As ab-initio calculations of atomic nuclei enter the $A=20-100$ mass range, one of the biggest challenges is to provide accurate predictions for the vast majority of open-shell (degenerate) isotopes. I discuss recent developments of ab-initio nuclear structure theory for medium-mass nuclei, with focus on extensions to open-shell systems and inclusion of three-body forces. I then present the latest results of Gorkov-Green's function method, including the first applications with two- and three-body forces from chiral effective field theory in several isotopic chains around oxygen and calcium.

Primary author: Dr SOMA, Vittorio (EMMI/TU Darmstadt)

Presenter: Dr SOMA, Vittorio (EMMI/TU Darmstadt)

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