

TRANSFER REACTIONS AS A PROBE OF SINGLE- PARTICLE ENERGIES

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Much of our understanding of the atomic nucleus is based upon the concept of single nucleons moving within a mean-field potential. The properties of the single-particle orbitals which arise from such a description are essential for understanding many aspects of nuclear structure.

The majority of our knowledge of nuclear structure comes from the well-studied nuclides along the valley of stability. There is evidence, however, that the sequence of single-particle energies familiar in these nuclei changes in more exotic species. Recent theoretical studies of effective nucleon-nucleon interactions suggest that it is the tensor component of the interaction which drives these changes.

Single-nucleon transfer reactions are a powerful tool with which to study single-particle energies due to their sensitivity to the fragmentation of single-particle strength. This talk will discuss a series of precision transfer measurements which have been made across systems expected to be particularly sensitive to the effects of the tensor interaction.

Nuclear
Seminar

All interested
persons are
cordially
invited to
attend.