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Transfer Experiments at REX-ISOLDE

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T-REX is an ancillary detector device for the MINIBALL setup at REX-ISOLDE, CERN. It consists of eight position sensitive silicon barrel detectors as well as a DSSSD CD-detector. This allows to cover a large range of scattering angles, what gives the possibility to determine spins and relative spectroscopic factors after transfer reactions using RIBs. We will introduce the T-REX setup and discuss the technical status and discuss some aspects of its future development, especially with respect to the HIE-ISOLDE project. We give an overview on results in the region of the “Island of Inversion” and highlight the importance of transfer reactions at T-REX. We also show recent data from a two-neutron transfer reaction towards Ar-46 to discuss the evolution of the $N=28$ shell gap below Ca-48. Finally, we mention first steps to study the isospin dependence of the symmetry energy using T-REX. Similar studies at future next-generation RIB facilities may give important information on systems with extreme values of isospin, like neutron stars.

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