

radioactive beam of ^{28}Mg ($1.5 \cdot 10^6$ pps) was scattered off a radioactive tritium target to populate states in ^{30}Mg after two-neutron transfer. For the first time, the full HIE-ISOLDE beam energy of 9.5 MeV/u was used for a transfer experiment at MINIBALL. Thanks to the higher beam energies, the data allow insight into the full complexity of three-state mixing in the IOI, for the first time. We discuss the implications of the preliminary data analysis to our understanding of nuclear shell evolution.

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Transfer and breakup reactions involving ^7Be at ISOLDE

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The transfer and breakup nuclear reactions involving loosely bound light stable and unstable nuclei have interesting consequences in nuclear astrophysics. In particular, reactions with ^7Be are linked to the cosmological lithium problem. Detailed studies of ^7Be destruction channels are required before one can invoke solutions to the lithium problem beyond nuclear physics, particularly in the context of new resonances as well as conjectured light neutral particles. In addition, study of α -transfer and breakup reactions involving ^7Be require data on different targets with wide angular coverage. An experiment with 5 MeV/A ^7Be on CH_2 , CD_2 and ^{208}Pb targets has been carried out at HIE-ISOLDE (IS 554). We utilized the scattering chamber installed in the third beamline of the HIE-ISOLDE facility with sets of DSSD in a pentagon geometry. Preliminary results from the experiment would be presented.

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Disentangling the ^{186}Hg puzzle

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