Abstract Submitted
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A new reaction spectroscopy facility, IRIS, with solid H_2/D_2 targets R. KANUNGO, Saint Mary's University, Halifax, S. ISHIMOTO, KEK, Japan, A. SANETULLAEV[1], Saint Mary's University, Halifax; TRIUMF — Nucleon transfer reactions of rare isotopes are sensitive ways of exploring the evolution of shell structure. Two nucleon transfer reactions probe the pairing correlation in exotic nuclei. Due to the simplicity of their structure, the hydrogen isotopes, p,d,t, are the best choice for these reactions. For unstable nuclei, the reactions needs to be performed in inverse kinematics with p,d,t serving as the targets. The presentation will describe a new facility, IRIS , that pioneers in using thin windowless solid H_2 and D_2 targets [1] $\sim$ 50-100 μm, for direct reactions with re-accelerated beams of exotic nuclei. The presentation will describe the basic structure of the target and the reaction detection detectors. The solid H_2/D_2 targets eliminate the background that is present from reactions on carbon in the polyethylene foil targets. In addition, the effectively thicker targets help to increase the reaction yield.

[1] S. Ishimoto- et al., RCNP Progress Report 2010.

[1]et al. with 33 co-authors

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