

Monday

January 19

4 P.M.

Rm 124 NSH

Investigation of transitional rare earth nuclei using light ion reactions: Nuclear Structure and Surrogates

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For several years, the Richmond group has been investigating the low/medium spin structure of $N \sim 90$ rare earth nuclei utilizing light ion transfer reactions, such as (p,d) , (p,t) and inelastic proton scattering: work relevant for both basic nuclear structure and for surrogate (n,γ) cross section measurements. Such light ion induced reactions populate a variety of states and structures from the ground state to very high excitation energies, up to and indeed beyond the neutron separation energy. Thus we are probing the relatively unexplored bound state quasi-continuum at high energy and medium spin. Our recent work has focused on Sm and Gd nuclei and on several aspects: Single particle structures of odd N nuclei: Measurements of the spin distribution in the high energy bound quasi-continuum: Precision cross section measurements for excited states: and the properties of a intense feature, called the peak-like-feature observed just above the pair gap in all five even-even Gd and Sm nuclei studied to date.

Refreshments served prior to the seminar in Rm 124.