SEMINAR ANNOUNCEMENT

"Study the stability of *N = 28* shell using the 58Ni(p,t)56Ni reaction"

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Wednesday, 2 Mar 2016, 11-12 PM, ROOM No. 2308

Transfer reaction is an effective tool to study the nuclear structure and the validity of the nuclear shell model. Neutron transfer reactions enable the measurement of the excitation energy, orbital angular momentum ***l*** and, if a polarized beam is used, the total angular momentum ***J***. Further more two-neutron transfer reaction such as (p,t) is a direct probe of pairing correlations in nuclei and so the stability of known shells. The mechanism of the two neutron transfer, whether they transfer simultaneously or sequentially is an indicator for the strength of neutron pairing and so the stability of the shell. In this work we used the 58Ni(p,t)56Ni reaction to study the neutron pairing and deduce the stability of the magic number ***N = 28*** and the ***1f7/2*** shell closure in Ni.

The experimental results compared to the theoretical calculation using the Distorted Wave Born Approximation DWBA utilizing the code CHUCK3 will be presented and discussed.

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