High Resolution Measurement of the ^{118}Sn(p,t)^{116}Sn Reaction.

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In reference [1] we have reported our study on the ^{118}Sn(p,t)^{116}Sn reaction, measured in a high resolution experiment at 24.6 MeV proton incident energy.

This contribution presents the DWBA analysis of the experimental differential cross sections, performed in finite range approximation assuming a semimicroscopic dineutron cluster pickup. In our DWBA analysis we assume that the relative motion of the transferred spin-singlet neutron pair has zero angular momentum and no radial nodes. We describe the center of mass wave function of the transferred neutron pair by a single-particle wave function with angular momentum equal to the total angular momentum L of the transferred pair.

The DWBA calculations have been performed using a proton-dineutron interaction potential of Gaussian form. We use the same set of optical model parameters for all the (p,t) reactions on different tin isotopes [2].

Among the 55 transitions analyzed, as example of experimental data (dots) and calculation results (solid lines) in the figure the observed transition to $J^\pi = 0^+$ and $J^\pi = 1^-$, 3^- final states are reported.

References

[1] P. Guazzoni et al. Annual report 2007, p. 9.
[2] P. Guazzoni et al., Phys. Rev. **C78** (2008) 064608