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A STUDY OF ^{112}Cd and ^{110}Pd VIA $(\vec{p},p')$ $(\vec{d},d')$ AND $(\vec{d},t)$*

R. Hertenberger, G. Graw, F.J. Eckle, H. Kader, P. Schiemenz
Sektion Physik, Universität München, 8046 Garching, R.F. of Germany
N. Blasi, S. Micheletti
SIN di Fisica Nucleare, 20133 Milano, Italy
R. de Leo
SIN de Fisica Nucleare, 70126 Bari, Italy
M. Fujiwara, K. Hosono, M. Kondo, N. Matsuoka, T. Noro, T. Saito, S. Kato
RCNP, Osaka University, Ibaraki, Osaka 567, Japan
Okamoto, S. Matsuki
Dept. of Physics, Kyoto University, Kyoto, Japan

To study the higher lying excitation spectra of ^{112}Cd and ^{110}Pd in inelastic excitation within IBA we took care to provide experimental information about isovector excitations, multistep processes and single particle aspects. The inelastic scattering angular distributions obtained with 65 MeV polarized protons at the RAIDEN spectrograph enhance neutron excitations and are scarcly affected by two step processes. The 20 MeV polarized deuteron scattering experiments at the Q3D spectrograph provide further increased energy resolution, isoscalar excitations and enhance two step contributions.

An additional ^{113}Cd$(\vec{d},t)$ study at E_d = 20 MeV was very useful to clearly identify nearby levels (doubletts) in ^{112}Cd and to assign quantum numbers to most of the 65 states observed below E_x = 3.5 MeV. Significant isovector contributions are observed for a few of the weakly excited 2^+ states above 2 MeV (3 neutron dominated excitations at 2156, 2231 and 2945 keV and a proton dominated at 2724 keV). The $(\vec{d},t)$ data indicate, that these states have no contribution of the lowest particle hole configurations. In general, the $(\vec{d},t)$ results are reasonable well reproduced by QRPA calculations. The collective model analysis is in progress.

*) Work supported in part by the BMFT