Abstract Submitted
for the APR07 Meeting of
The American Physical Society

Detailed level scheme of ^{92}Rh and its relevance to the decay of ^{94m}Ag[1] O.L. PECHENAYA, C.J. CHIARA, D.G. SARANTITES, W. REVIOL, R.J. CHARITY, Washington University, M.P. CARPENTER, R.V.F. JANSSENS, C.J. LISTER, D. SEWERYNIAK, S. ZHU, Argonne National Laboratory, L.-L. ANDERSSON, E.K. JOHANSSON, D. RUDOLPH, Lund University — The level scheme of ^{92}Rh was studied via the ^{40}Ca(^{58}Ni,αpn) reaction in an experiment utilizing the Gammasphere, Neutron Shell, and Microball arrays for detection of γ rays, neutrons, and charged particles, respectively. The level scheme of ^{92}Rh reported in [1] has been modified and extended to higher spins, and angular distributions have been measured for most of the γ rays observed. This information is relevant to the likelihood of the reported two-proton decay from the 6.7-MeV 21^+ isomer in ^{94}Ag to excited states in ^{92}Rh [2]. The evidence for that decay mode hinges on the claimed observation of several ^{92}Rh transitions in coincidence with two protons. Our new results for ^{92}Rh place severe constraints on the amount of angular momentum removed by a possible two-proton decay of ^{94m}Ag.
[1] D. Kast *et al.*, Z. Phys. **A356**, 363 (1997).
[2] I. Mukha *et al.*, Nature **439**, 298 (2006).

[1]Supported by DOE Grant Number DE-FG02-88ER-40406

Olga Pechenaya
Washington University

Date submitted: 05 Jan 2007 Electronic form version 1.4