

Abstract Submitted  
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**Low-spin excitations in  $^{100}\text{Pd}$**  D. RADECK, L. BETTERMANN, WNSL, Yale University, USA+IKP, Universitaet Koeln, Germany, A. BLAZHEV, C. BERNARDS, A. DEWALD, C. FRANSEN, S. HEINZE, J. JOLIE, D. MUECHER, T. PISSULLA, K.O. ZELL, IKP, Universitaet Koeln, Germany, O. MOELLER, IKP, TU Darmstadt, Germany — In the context of investigating collectivity in the A=100 mass region the nucleus  $^{100}\text{Pd}$  was measured at the Cologne Tandem facility using the HORUS and the plunger setups. Detailed data exists for the N=52 isotones and the evolution of collectivity - especially of the symmetric and mixed-symmetric phonon states - was discussed. To extend the knowledge of the evolution in this region it is important to measure the N=54 isotones. Up to now the low-energy part of the excitation spectrum of  $^{100}\text{Pd}$  was known sparsely and only the lifetime of an  $8^+$  isomer was known. Using the HORUS data the level scheme was extended, clarified and multipole mixing ratios were determined for the first time. The plunger experiment yielded lifetimes of the yrast states up to  $12_1^+$ . Both, the experimental excitation spectrum and electric transition strengths, were compared to predictions of theoretical models, i.e. the anharmonic vibrator model, the Interacting Boson Model and the shell model. A candidate for the one-phonon mixed-symmetry excitation  $2_{1,\text{ms}}^+$  was identified due to its dominating M1 transition to the symmetric  $2_1^+$  state. The results will be presented and discussed. Supported by DFG, grant Jo 391/3-2 and US DOE DE-FG02-91ER40609.

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