Abstract Submitted
for the DNP13 Meeting of
The American Physical Society

High-resolution study of excited 0^+ states in mercury isotopes[1]
CHRISTIAN BERNARDS, R.F. CASTEN, V. WERNER, Yale University, P. VON BRENTANO, Universität zu Köln, D. BUCURESCU, NIPNE Romania, G. GRAW, Ludwig-Maximilians-Universität München, S. HEINZE, Universität zu Köln, R. HERTENBERGER, Ludwig-Maximilians-Universität München, J. JOLIE, Universität zu Köln, S. LALKOVSKI, University of Sophia, D.A. MEYER, Yale University, D. MÜCHER, P. PEJOVIC, C. SCHOLL, Universität zu Köln, H.-F. WIRTH, Technische Universität München — In recent years, much effort was invested in systematic studies of low-lying 0^+ excitations in medium- to heavy-mass nuclei, ranging from ^{152}Gd to ^{194}Pt. This region is particularly interesting, as the structure of these nuclei changes from transitional nuclei in the Gd region, over well-deformed nuclei in the Yb region, to γ-soft nuclei in the Pt region. Recently, we moved further towards the ^{208}Pb proton-neutron shell closure by investigating 0^+ excitations in ^{198}Hg, ^{200}Hg, and ^{202}Hg at the Q3D magnetic spectrograph in Munich. This allows us to test if the 0^+ density can be used as a signature for the prolate-oblate shape-phase transition in the Hf-Hg region. We present and discuss the results of our high-resolution study on excited 0^+ states in the mercury isotopes.

[1]Supported by DOE grant DE-FG02-91ER-40609.

Christian Bernards
Yale University

Date submitted: 28 Jun 2013 Electronic form version 1.4