

Abstract Submitted
for the DNP07 Meeting of
The American Physical Society

Low-energy Coulomb excitation of radioactive ^{70}Se ¹ AARON HURST, Lawrence Livermore National Laboratory, REX-ISOLDE COLLABORATION, MINIBALL COLLABORATION — An isobarically pure beam of ^{70}Se ions was post accelerated to an energy of 206 MeV using REX-ISOLDE. Coulomb-excitation yields for states in the beam and target nuclei were deduced by recording de-excitation γ rays in the highly segmented MINIBALL γ -ray spectrometer in coincidence with scattered particles in a silicon detector. At these energies, the Coulomb-excitation yield for the 2_1^+ state in ^{70}Se is expected to be strongly sensitive to the sign of the spectroscopic quadrupole moment through the nuclear reorientation effect. Experimental evidence is presented here for a prolate shape for this state, using an earlier published lifetime measurement, reopening the question over whether there are deformed oblate shapes close to the ground state in the neutron-deficient selenium isotopes.

¹This work was supported by the U.K. EPSRC, the ISOLDE Collaboration, the German BMBF, the EU Vth framework EURONS initiative, and the U.S. DOE by UC-LLNL under contract No. W-7405-Eng-48.

Ching-Yen Wu
Lawrence Livermore National Laboratory

Date submitted: 03 Jul 2007

Electronic form version 1.4