Low-energy Coulomb excitation of radioactive $^{70}\text{Se}^1$ AARON HURST, Lawrence Livermore National Laboratory, REX-ISOLDE COLLABORATION, MINIBALL COLLABORATION — An isobarically pure beam of $^{70}\text{Se}$ 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 $\gamma$ rays in the highly segmented MINIBALL $\gamma$-ray spectrometer in coincidence with scattered particles in a silicon detector. At these energies, the Coulomb-excitation yield for the $2^+_1$ state in $^{70}\text{Se}$ 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.

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