Abstract Submitted
for the DNP20 Meeting of
The American Physical Society

What can we learn about deformation with Coulomb excitation of radioactive ions?[1] JACK HENDERSON, Lawrence Livermore Natl Lab — The emergent phenomenon of collectivity in atomic nuclei provides a sensitive diagnostic of underlying microscopic behaviours. For example, the breaking down of traditional magic numbers typically comes hand-in-hand with an enhancement of deformation. Coulomb excitation provides the most straightforward route towards experimentally establishing this deformation in unstable nuclei, especially with regards to the nature of the quadrupole deformation. I will discuss recent results, using particle-gamma coincidence spectroscopy to establish the deformation of mid-mass nuclei, as well as potential limitations, in particular when it comes to establishing the softness of the nuclear shape.

[1]Work at LLNL was performed under contract DE-AC52-07NA27344.

Jack Henderson
Lawrence Livermore Natl Lab

Date submitted: 25 Jun 2020 Electronic form version 1.4