Wednesday
Nov 13th
At Noon
During Brown Bag Luncheon

\(^{11}\text{O}\) AND OTHER IN Variant MASS RESULTS
AT, BEYOND OR ISOBARICALLY ANCHORED
TO THE PROTON DRIP LINE

Abstract:
The reconstruction of the continuum of light nuclei using the invariant
mass technique has allowed us to: reconstruct three previously unobserved
nuclides, find many new excited states, improve level properties of known
levels, find one (and perhaps a second) case of sequential 2p-2p decay,
discover 2p decay between isobaric analog states, study the decay of the
Hoyle state, find an unappreciated mechanism for the generation of
extreme nuclear spin alignments, complete or reduce uncertainties of
several isospin multiplets, and find several new near-threshold resonances.
Our work impacts every isobar from \(A=5\) to \(A=18\). This talk will discuss
how these experiments are done, present a survey of some of the results
mentioned above and then focus on the recent discovery of \(^{11}\text{O}\) (the
mirror of the iconic \(^{11}\text{Li}\)) and explaining near-threshold resonances in \(^9\text{Li}
\) and \(^{10}\text{Be}\). In these cases continuum cognizant shell models are exploited to
shed light on the not-so-obvious entanglement of the continuum (or
continua) with structure.