

## Structure and Two-Neutron Decay of $^{16}\text{Be}$

*Thursday, 3 August 2023 14:30 (25 minutes)*

Investigating the properties of nuclei far from the line of beta-stability is one of the central themes of present day nuclear physics. Of particular interest as the neutron dripline is approached are the changes in shell structure and the correlations that may develop between the valence neutrons. In this presentation we will focus on the structure and neutron-neutron correlations in the heaviest known Be isotope,  $^{16}\text{Be}$ , which is unbound to two-neutron emission. Results will be presented from a study employing proton knockout from a secondary  $^{17}\text{B}$  beam and the SAMURAI spectrometer coupled to the MINOS active liquid hydrogen target system and the NEBULA fast neutron array. Comparison will be made with the results of realistic three-body calculations, which, importantly, incorporate the effects of the decay process. This will allow conclusions to be drawn regarding the spatial configurations of the levels observed in  $^{16}\text{Be}$ .

**Primary author:** ORR, Nigel (LPC-Caen (CNRS/IN2P3))

**Presenter:** ORR, Nigel (LPC-Caen (CNRS/IN2P3))

**Session Classification:** Clustering and multi-neutron systems