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# Nuclear physics of exotic nuclei and its implications in astrophysics

The John D. Fox Accelerator Laboratory at Florida State University operates an accelerator system comprised of a 9 MV Tandem plus a 8 MV superconducting linac booster to provide light- and heavyion beams for nuclear structure and nuclear astrophysics research. The laboratory is operating an inflight radioactive beam facility called RESOLUT to produce radioactive beams one or two nucleons off stability. Exotic beams have been successfully used in projects of astrophysical interest, such as the excitation-function measurement for 18Ne(alpha,p), relevant for the breakout from the hot-CNO cycle, and 7Be+d, which is analyzed in its impact on the primordial lithium problem. Other recent projects include the study of a threshold-resonance in 11B, which had been hypothesized to play a role in the beta-delayed proton decay of 11Be. The laboratory also operates high-resolution stable-beam instruments, such as the SE-SPS large-acceptance magnetic spectrograph and the Clarion-2 gamma spectrometer, which create synergy towards common scientific goals pursued at the laboratory.

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