

Abstract for an Invited Paper
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Probing shell structure using beta-delayed and isomeric gamma-ray spectroscopy at the NSCL

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I will review the results of recent measurements of beta-delayed and isomeric gamma rays from neutron-rich nuclides produced by fast fragmentation at the National Superconducting Cyclotron Laboratory at Michigan State University. The use of fast fragmentation allows for unambiguous mass and proton number assignments to each implanted fragment. The time and position correlations between fragment implantations and emitted beta particles, on an event-by-event basis, greatly reduce background and make the approach suitable for use with cocktail beams. The results to be discussed examined the systematic behavior of low- energy states in nuclides near the neutron shell closures at $N = 20, 28, 50,$ and 82 . This work was supported in part by the National Science Foundation grant PHY-01-10253.