

DNP12-2012-000038

Abstract for an Invited Paper
for the DNP12 Meeting of
the American Physical Society

Nuclear structure beyond the neutron drip line¹

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Nuclei far from stability were shown to exhibit new structure characteristics as well as exotic decay modes. Modern facilities can populate and study light nuclei all the way to the neutron drip line and even beyond. At the National Superconducting Cyclotron Laboratory at Michigan State University the MoNA/Sweeper setup is used to measure the decay of neutron unbound nuclei and study their ground and excited state properties. In addition, for two-neutron unbound nuclei the correlations between the emitted neutrons can reveal the decay mode, i.e. whether the two-neutron decay corresponds to two sequential decays or to a simultaneous emission of the two neutrons. In this talk the most recent results of the MoNA collaboration will be presented, including the two-neutron decay of ^{26}O , ^{16}Be and ^{13}Li . The results will be compared to theoretical predictions in order to provide constraints to these calculations.

¹Supported by the National Science Foundation, under Grant No. PHY-1102511.