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Spectroscopy of Doubly-magic ^{132}Sn with GRIFFIN KENNETH WHITMORE, Simon Fraser University, GRIFFIN COLLABORATION — The region of neutron-rich tin isotopes near mass number 130 is of great interest to nuclear structure. In particular, ^{132}Sn with 50 protons and 82 neutrons is a doubly magic nucleus which provides an essential benchmark for the shell model far from stability. Understanding the structure of this nucleus provides a foundation for understanding the single-particle nature of excited states in neighboring isotopes. In addition to nuclear structure considerations, isotopes in this region are also relevant to astrophysics, as their decay properties are essential to understanding r-process nucleosynthesis and its role in creating the $A = 130$ abundance peak. The nucleus ^{132}Sn has been studied following the β^- decay of ^{132}In at the ISAC facility at TRIUMF. The high-purity germanium detectors of GRIFFIN were used to detect γ rays in combination with β^- particle detection with SCEPTAR. The experiment was also sensitive to the β -delayed neutron decay of ^{132}In through the observation of γ rays in ^{131}Sn and ^{131}Sb . Results on the decay of ^{132}In and γ spectroscopy of ^{132}Sn will be discussed.

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