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**Prospects for a Low Threshold Neutrino Experiment at the SNS**

DIANE MARKOFF, NC Central University, CLEAR COLLABORATION — A low-threshold neutrino scattering experiment at a high-intensity stopped-pion neutrino source has the potential to measure coherent neutral current neutrino-nucleus elastic scattering. Coherent scattering is a vital process for driving stellar explosion mechanisms which are as yet poorly understood in supernova evolution, and may provide a means to detect neutrino bursts from nearby supernova. The coherent scattering interaction rate can be very precisely calculated in the Standard Model, therefore comparison to measurements provides for another means to test the Standard Model and an opportunity to search for non-standard neutrino interactions. A promising prospect for the measurement of this process is a proposed noble-liquid-based experiment, dubbed CLEAR (Coherent Low-Energy A(Nuclear) Recoils), at the Spallation Neutron Source located at ORNL in Tennessee. This talk will describe the CLEAR proposal and its physics reach.

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