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Neutron capture cross section of ^{136}Xe SEAN DAUGHERTY, JOSHUA ALBERT, TESSA JOHNSON, THOMASINA O'CONNER, LISA KAUFMAN, Indiana Univ - Bloomington — ^{136}Xe is an important $0\nu\beta\beta$ candidate, studied in experiments such as EXO-200 and, in the future, nEXO. These experiments require a precise study of neutron capture for their background models. The neutron capture cross section of ^{136}Xe has been measured at the Detector for Advanced Capture Experiments (DANCE) at the Los Alamos Neutron Science Center. A neutron beam ranging from thermal energy to 100 keV was incident on a gas cell filled with isotopically pure ^{136}Xe . We will discuss the measurement of partial neutron capture cross sections at thermal and first neutron resonance energies along with corresponding capture gamma cascades.

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