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Neutron production and exotic physics with SNO

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The Sudbury Neutrino Observatory (SNO), built to study neutrinos produced in the Sun, discovered that neutrinos can change flavour and, thus, they are massive particles. SNO detected and recorded neutrino and cosmic ray interactions from 1999 to 2006 and several analyses have been completed in the past year using legacy data. We present the results of the most recent ones, namely: measurement of neutron production in atmospheric neutrino interactions, a search for Lorentz violation, and a search for potential neutrino decay. The former is important to better understand neutrino interactions and reduce backgrounds in supernova neutrino and nucleon decay searches, and the last two analyses yield new constraints on exotic physics searches. Finally, we will touch on the status of other on-going analyses.

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