Abstract Submitted
for the APR17 Meeting of
The American Physical Society

Improved Constraints on the hep Solar Neutrino and Diffuse Supernova Neutrino Background Fluxes with SNO ANDREW MASTBAUM, Univ of Chicago, SNO COLLABORATION — The Sudbury Neutrino Observatory (SNO) has demonstrated that the apparent deficit in solar neutrinos observed on Earth is due to matter-enhanced flavor transitions and provided precise measurements of the relevant model parameters. The low backgrounds and large, spectral $\nu_e - d$ cross section that enabled this program also give SNO unique sensitivity to two yet-unobserved neutrino signals of interest: *hep* solar neutrinos and the ν_e component of the diffuse supernova neutrino background (DSNB). We have developed a combined *hep* and DSNB search making use of the full SNO dataset. We perform both a cut-and-count analysis and a multidimensional spectral fit, improving upon previously reported constraints based on the initial phase of SNO running only.

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Date submitted: 30 Sep 2016 Electronic form version 1.4