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Measuring the energy dependence of the ν_e survival probability at the Sudbury Neutrino Observatory STANLEY SEIBERT, University of Texas, SUDBURY NEUTRINO OBSERVATORY COLLABORATION — The Sudbury Neutrino Observatory has excellent sensitivity to the solar neutrino energy spectrum through the charged-current interaction with deuterium. Assuming a known ^{8}B neutrino spectrum at the production point in the Sun, we can obtain the ν_e survival probability on Earth as a function of neutrino energy. This talk describes a new method for obtaining these survival probability functions directly from the SNO data set using a maximum likelihood fit. The kernel estimation technique is used to build unbinned, non-parametric, multidimensional probability density functions from Monte Carlo event samples which can be reweighted on-the-fly as the fit parameters describing the survival probability function are varied. This method also allows the survival probability function to be obtained simultaneously for upward and downward-going (night and day) neutrinos for tests of ν_e regeneration in the Earth.

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