Abstract for an Invited Paper
for the DNP10 Meeting of
The American Physical Society

Neutrino Mixing of ^{8}B Solar Neutrinos

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The Sun is a copious source of neutrinos. Since Ray Davis' pioneering experiment at the Homestake mine four decades ago, terrestrial experiments have been using solar neutrinos to investigate the properties of neutrinos and to probe the solar core. The long-standing Solar Neutrino Problem was finally resolved by the Sudbury Neutrino Observatory (SNO) experiment nearly a decade ago, when it simultaneously observed a deficit of electron-type neutrinos and a congruence of the measured total active neutrino flux with predictions from solar models. This difference in the electron-type neutrino flux and the total active neutrino flux is direct evidence for neutrino mixing. Since then there have been tremendous progress worldwide in measuring the neutrino mixing parameters θ_{12} and Δm^2_{12} using ^{8}B solar neutrinos. In this talk, I will review the current status of these measurements. In particular, I will discuss recent results by the SNO experiment and their implications for our understanding of the neutrinos.