



Karl Herzfeld Memorial Lecture

Department of Physics

THE CATHOLIC UNIVERSITY OF AMERICA

A Place in the Sun for the Neutrino

presented by:

A handwritten signature in black ink, appearing to read "R. G. Hamish Robertson".

R. G. Hamish Robertson

Center for Experimental Nuclear Physics and Astrophysics
University of Washington, Seattle, WA 98195

More than a mile beneath the Canadian Shield is a detector filled with 1000 tons of pure heavy water and 8000 tons of ordinary light water. The Sudbury Neutrino Observatory (SNO), built by a Canada-US-UK collaboration, has been taking data for three years. With heavy water, SNO is able to show whether neutrinos emitted by the sun, created as electron neutrinos, arrive at earth in a state with a different flavor (μ or τ). The shortfall of the number of solar neutrinos observed in experiments over the last 30 years compared to the predictions of solar models has been found to result from a property of neutrinos, not solar models. This, and a wealth of new neutrino data from SuperKamiokande, KamLAND, WMAP, and other experiments, are reshaping our ideas about these elusive particles.

Tuesday, April 15, 2003

in the Herzfeld Auditorium of Hannan Hall

4 p.m.

Reception immediately following lecture
Telephone: (202) 319-5315

