APR05-2005-000196

Abstract for an Invited Paper
for the APR05 Meeting of
the American Physical Society

Overview: Neutrinos and Nucleosynthesis

BAHA BALANTEKIN, University of Wisconsin-Madison

The astrophysical site of the r-process nucleosynthesis is not yet identified, but the neutrino-driven wind in a core-collapse supernova is one of the leading candidates. Neutrino interactions play a crucial role in such supernovae. Neutrino fluxes control the neutron-to-proton ratio in the high-entropy hot bubble which is where r-process nucleosynthesis is thought to take place. In this talk our current understanding of the role of neutrinos in core-collapse supernovae and the associated r-process nucleosynthesis will be reviewed. This work was supported in part by the U.S. National Science Foundation Grant No. PHY-0244384 and in part by the University of Wisconsin Research Committee with funds granted by the Wisconsin Alumni Research Foundation.