

Abstract Submitted
for the DNP12 Meeting of
The American Physical Society

Symmetry violations in neutron-deuteron reactions VLADIMIR GUDKOV, YOUNG-HO SONG, University of South Carolina, RIMANTAS LAZAUSKAS, IPHC, IN2P3-CNRS/Universite Louis Pasteur, France — The study of parity violating (PV) and time reversal invariance violating (TRIV) effects in low energy physics are very important for the understanding of the main features of the Standard model and for a search for the possible manifestations of new physics. In this talk we present a comprehensive analysis of PV and TRIV effects for the simple nuclear processes: neutron-deuteron reactions. We compare different PV and TRIV effects, which have been calculated using both traditional (DDH-type) symmetry violating potentials and the potentials obtained using the effective field theory approach. The possibility to measure symmetry violating effects in neutron-deuteron system and the issues related to theoretical uncertainties in calculations of these effects are discussed.

Vladimir Gudkov
University of South Carolina

Date submitted: 10 Jul 2012

Electronic form version 1.4