Parity and time-reversal symmetry violation in A=2-4 nuclei

R. Lazauskas¹, Y.H. Song², V. Gudkov²

¹ IPHCIN2P3-CNRS/Université Louis Pasteur BP 28,F-67037 Strasbourg Cedex 2, France
² Department of Physics and Astronomy, University of South Carolina, Columbia, South Carolina, 29208, USA

Contact email: rimantas.lazauskas@iphc.cnrs.fr

Parity and/or time-reversal symmetry violating components of the nucleon-nucleon interaction play an important role in understanding the main features of the Standard model. These effects has been rather intensively studied during the last decade, moreover new spallation neutron facilities, such as the SNS at the Oak Ridge National Laboratory or the J-SNS at J-PARC, may provide new data of very high accuracy.

In this presentation I will review current status of the theoretical calculations of parity-violating and/or time reversal invariance-violating observables in few-nucleon systems. In particular, I will concentrate on low energy nucleon scattering on mass A=1-3 targets as well as nuclear EDM calculations in A=2-3 nuclei.