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Symmetry violations in few-body reactions: old and new approaches

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The study of parity violating (PV) and time reversal invariance violating (TRIV) effects in low energy physics are very important problems for understanding main features of the Standard model and for a search for new physics. During the past 50 years many calculations of different PV and TRIV effects in nuclear physics have been done. However, in the last few years it became clear that the traditional methods for the calculation of PV effects have difficulties in describing the available set of experimental data. A comprehensive study of few-body systems could clarify the origin of these theoretical difficulties since for these systems all strong interaction effects can be treated with much better accuracy than for many-body nuclei.

As an attempt for this study, the overview of methods of calculations of PV and TRIV effects in few-body neutron induced reactions is presented with the analysis of values of calculated parameters and their accuracy.

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