Special Issue

Beta-Decay Processes in Nuclear Systems

Message from the Guest Editors

In this Special Issue, we would like to summarize the current status of calculations and experiments that are relevant for nuclear beta decays. In particular, we plan to review several aspects of weak decays, from the neutron to the decays of light and medium mass nuclei, and the different theoretical methods, from lattice QCD to few-body methods based in effective field theories and nuclear many-body techniques, that make it possible to achieve rigorous predictions. A crucial aspect will be to have a full understanding of the precision that present and near-future experiments will achieve, and of the systematic uncertainties in the theoretical calculations at different scales, whose control is necessary to establish nuclear beta decays as sensitive probes of physics beyond the Standard Model.

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