ISOLDE Workshop and Users meeting 2016



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Weak-interaction studies with radioactive nuclei

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Beta decay is formidable laboratory for the study of weak interaction. These decays give today the most precise value of the Vud quark-mixing matrix and competitive limits on physics beyond the standard model like scalar or tensor currents. In my talk, I will cover the present status of 0+-0+ and mirror beta decays to determine the Vud matrix element and describe present and future activities to improve the quality and precision of these measurements. Measurements of angular correlation coefficients in nuclear beta decay allow for a determination of limits of scalar currents in Fermi beta decay and of tensor contributions in Gamow-Teller beta decay. The status of these measurements will be presented and future initiatives at ISOLDE described.

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