

Assessing the spectral shape of forbidden beta decays

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Precision measurements of forbidden β -decays are a crucial benchmark for Nuclear Physics calculations, which in turn play a pivotal role in Astroparticle Physics. In particular, these processes could clarify the long-standing issue of the axial coupling constant (g_A) quenching in nuclear medium, which enters the theory when the hadronic current is renormalized at the nucleon level and approximate many-body calculations are performed. Such strongly suppressed processes are also a common uncertainty source in Dark Matter and Neutrinoless Double Beta Decay experiments, which demand for detailed knowledge of the background shape. For this reasons, a renewed experimental effort is currently underway in the scientific community to address forbidden β -decays measurements in a systematic way. Several detection techniques have been adapted to this physics case, and by exploiting the specific features of the different detectors it is possible to obtain complementary measurements of excellent quality. In this contribution the motivations behind this experimental effort and the most recent measures will be discussed.

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