

Investigation of systematic uncertainties of the aSPECT experiment

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With the retardation spectrometer aSPECT we aim to determine the beta-neutrino angular coefficient a in free neutron decay with high precision. Using this measurement the weak coupling constants g_A/g_V can be determined and therefore the Standard Model can be tested. To reach this high precision, the systematic uncertainties have also to be known with high precision.

In the past years several systematic investigations to determine these uncertainties have been performed and major improvements were achieved..

This poster gives an overview of the systematic uncertainties, as well as the employed methods to investigate them and the improvements to the spectrometer to minimise these uncertainties.

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