

Abstract Submitted
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The *a*SPECT experiment - an overview and latest results CHRISTIAN SCHMIDT, Johannes Gutenberg-University, ASPECT COLLABORATION — The *a*SPECT retardation spectrometer measures the β - ν angular correlation coefficient a in free neutron β -decay. This measurement can be used to determine the ratio $\frac{g_A}{g_V}$ of the weak coupling constants, as well as to search for physics beyond the Standard Model. In 2013 *a*SPECT had a successful beam time at the Institut Laue-Langevin. The goal of this beam time is to improve the current uncertainty of a from $\Delta a/a \approx 5\%$ to about 1%. The data analysis is in its final stage and nearly finished. In order to achieve an uncertainty of 1%, the systematics of *a*SPECT have to be understood accordingly. This is achieved by systematic tests and measurements of a with different parameter settings for the spectrometer during the beam time. Additionally, offline measurements have been performed to determine the effect on the systematics, e.g. work-function fluctuations of the electrodes. These measurements are used as input for on-going simulations of the spectrometer to understand and reduce the systematic uncertainties further. In this talk *a*SPECT will be introduced and the current status of the data analysis will be reported, including a preliminary error budget of the systematic uncertainties.

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