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A first determination of the beta-neutrino angular correlation at the WITCH experiment

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Low energy precision experiments for the search of exotic components in the weak interaction are complementary to the high energy experiments at the colliders dedicated to discover new particles. In the case of the WITCH experiment the beta neutrino angular correlation after nuclear beta decay is studied. A deviation from the distribution as predicted by the standard model will reveal the exotic interactions.
For the study of the weak interaction WITCH combines a Penning trap arrangement to provide a scattering free source of beta-decaying nuclides with a MAC-E filter setup to analyze the recoil energy distribution. This year in June the first coarse recoil energy spectrum could be obtained, which allowed a first extraction of the beta neutrino angular correlation coefficient with statistical uncertainty of 50%. With further developments and longer experiment time it is expected to push the statistical uncertainty in the October run below 1% during the October run.
In this talk the results for the beta neutrino angular correlation a of the WITCH campaigns are presented and discussed.

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