

Status of precise measurements of electron-beam polarization changes during long term operation

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For the high-precision measurements in the experiments at the new Mainz Energy Recovering Superconducting Accelerator (MESA), it is necessary to know exactly the long-term spin properties of the electron beam. For this purpose, a test setup has been built at the Institute for Nuclear physics. Different preparation methods of a photocathode with nitrogen trifluoride and oxygen are compared. The aim is to examine the advantages of an oxygen-free preparation, especially with regard to the influence on the evolution of spin polarization during the experiment. The setup and the first preliminary results are presented here.

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