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Sebastian Mey

Title **Towards an RF Wien-Filter for EDM Experiments at COSY (Jülich, Germany)**

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Presenter Sebastian Mey

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Author(s) Sebastian Mey, Ralf Gebel, Andreas Lehrach, Frank Rathmann (FZJ, Jülich)

Abstract The JEDI Collaboration (Jülich Electric Dipole Moment (EDM) Investigations) is developing tools for the measurement of permanent EDMs of charged, light hadrons in storage rings. While the standard model prediction for the EDM gives unobservably small magnitudes, a non-vanishing EDM can lead to a tiny build-up of vertical polarization in a beforehand horizontally polarized beam. This requires a spin tune modulation by an RF Wien-Filter *, ** . In the course of 2014, a prototype RF ExB-Dipole has been successfully commissioned and tested. To determine the characteristics of the device, the force of a radial magnetic field is canceled out by a vertical electric one to achieve a net Lorentz-Force compensation. In this configuration, it directly rotates the particles' polarization vector. We were able to verify that the device can be used to continuously flip the vertical polarization of a 970 MeV/c deuteron beam without exciting any coherent beam oscillations. For a first EDM Experiment, the RF ExB-Dipole in Wien-Filter Mode is going to be rotated by 90° around the beam axis and will be used for systematic investigations of sources for false EDM signals.

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Footnote * Kolya Nikolaev: http://www.bnl.gov/edm/files/pdf/NNikolaev_Wien_RFE.pdf (2012)
** William M. Morse, Yuri F. Orlov, and Yannis K. Semertzidis: Phys. Rev. ST Accel. Beams 16, 114001 (2013)

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