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The Hydro-Moeller Polarimeter at MESA

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A precision online polarimeter for the P2 experiment at the upcoming MESA accelerator is highly desirable. It can be realized in the following manner: A solenoid trap is integrated into the beamline leading towards the experiment. The trap will contain hydrogen atoms, the high magnetic field leads to a complete electron-spin polarization. Such an arrangement allows online operation because of low target thickness. Further, the main systematic errors of a Moeller polarimeter will be suppressed, potentially leading to very high polarisation accuracy. We present the technical design and how the trap and its peripheral devices can be integrated into the beamline.

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