

# Parity Violating Electron Scattering Experiments for an Ultra Precise Determination of the Weak Mixing Angle at Low Energies

*Friday, June 1, 2018 3:00 PM (20 minutes)*

Parity violating electron scattering off unpolarised electrons or unpolarised protons at low momentums transfer (well below Z-pole) is an ideal tool to test the Standard Model and search for BSM-physics up to a mass scale of about 50 TeV, complementary to the new physics searches at high energies at the LHC. The future MOLLER experiment at JLab and the future P2 experiment at the upcoming MESA facility in Mainz are designed to reach an accuracy of order per mille in the measurement of the weak mixing angle and are sensitive to partly different Standard Model extensions. Both experiments and their prospective physics reach will be discussed.

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## **Collaboration name**

MOLLER and P2 Collaborations

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