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Precision Electroweak Physics Using Parity Violating Electron Scattering

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The measurement of the violation of parity symmetry in electron scattering has proven to be a powerful technique for exploring nuclear matter and for the search for new fundamental forces. A successful history of measurements has set the stage for a series of ultra high-precision measurements, to be made over the next decade, which will test the completeness of the Standard Model description of the parity-violating neutral current coupling. Measurements of elastic electron-electron and electron-proton scattering at very low Q^2 , and of deep inelastic scattering from the deuteron, will face significant technical challenges but provide a powerful reach for new interactions. The implications of recent results and development of this next generation of experiments will be reviewed.

Presenter: PASCHKE, Kent (University of Virginia)

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