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Measuring the electromagnetic polarizability of the charged pion at Jefferson Lab Hall D RORY MISKIMEN, University of Massachusetts — The electromagnetic polarizability of the charged pion is arguably among the most important tests of low-energy QCD unresolved by experiment. Beyond providing a test of ChPT, a precision measurement of the charged pion polarizabilty (CPP) has significant ramifications for predictions of hadronic light-by-light scattering in $(g\text{-}2)_\mu$. The goal of the Jefferson Lab CPP experiment E-12-13-008 is to make a precision measurement of the charged pion polarizability at the level of $\approx 10\%$ through measurements of $\gamma\gamma \to \pi^+\pi^-$ cross sections. The CPP experiment will utilize the Hall D GlueX forward drift chambers, time-of-flight counters, and forward calorimeter to detect forward going $\pi^+\pi^-$ pairs produced by linearly-polarized tagged photons incident on a nuclear target. A system of forward angle MWPCs and iron absorbers is under development for muon identification in the experiment. This talk will summarize the present state of experiment and theory, and present the status of instrumentation development for the experiment.

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