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## The Planned New PRad-II Experiment at Jefferson Lab

*Tuesday, 9 July 2024 14:15 (25 minutes)*

The PRad experiment, performed recently in Jefferson Lab, demonstrated the advantages of the calorimetric method over the previously used magnetic spectrometer technique in scattering experiments to measure the proton charge radius with a high accuracy. Our first result, within the experimental uncertainties, agreed with the small radius extracted from the muonic hydrogen spectroscopy experiments, and made a significant input in changing the value of the proton charge radius in the recent CODATA recommendations. With that, the PRad result came in a direct disagreement with all modern electron scattering experiments including the most precise single scattering experiment recently performed in Mainz/MAMI in both the extracted radius and the measured form factors at very low  $Q^2$ . The Prad collaboration is currently preparing a new, upgraded high accuracy experiment (PRad-II) to run in Fall of 2025. With its factor of four improvement in experimental uncertainties PRad-II will address these yet unsettled controversies in the field of subatomic physics. The current status of this experiment will be presented and discussed in this talk.

### **session**

C. Hadron Structure

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