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RF Measurement Techniques and Improvements CARL ALMGREN, SCOTT HERES, CAMERON MOORE, GEORGE COLLINS, Colorado State University — Measurements of RF voltage, current, and phase at the plasma load (after the matching network) requires a careful implementation, especially for plasmas at atmospheric pressure with small electrode surface areas and excitation volumes. We present a comparison of measurements produced by two commercial instruments and conclude that to achieve accuracy with minimal perturbation requires an understanding of the equivalent circuit for the sensing method used. Finally we discuss how impedance match characteristics and a chosen measurement method need both be considered as a system when making these measurements.

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