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Experimentally validating numerical codes describing non-neutral plasmas JORDAN K. DAVIS, GRANT W. HART, BRYAN G. PETERSON, Brigham Young University — There are several numerical codes commonly used to describe non-neutral plasmas. These include an equilibrium code, EQUILSOR, and a 2D PIC code, RATTLE. As with all computations, they have assumptions about the relevant physics to include. We are attempting to determine the region of validity of these codes by carefully comparing their output with experimentally measured quantities. We will be measuring the density profile, temperature profile, and Trivelpiece-Gould modes of oscillation, along with the diocotron frequency and compare the spectra produced by the codes to those measured experimentally.

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