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**New Results in Impedance Probe Applications and Antenna Coupling in the NRL Space Physics Simulation Chamber**[1] DAVID BLACKWELL, Plasma Physics Division, Naval Research Laboratory, DAVID WALKER, MacAulay-Brown Inc, ERIK TEJERO, Plasma Physics Division, Naval Research Laboratory, RICHARD FERNSLER, Plasma Physics Division, Naval Research Laboratory (Ret), GEORGE GATLING, WILLIAM AMATUCCI, Plasma Physics Division, Naval Research Laboratory — We will present recent progress in plasma impedance probe experiments and antenna coupling calculations at NRL's Space Physics Simulation Chamber. The experiments are performed under a variety of conditions with magnetized and unmagnetized collisionless, cold plasmas in density ranges of $10^5 - 10^{10} cm^{-3}$. A range of low frequency measurements less than the ion plasma frequency will be compared with revised impedance probe models. Additionally, we will present new computational results on antenna coupling in a magnetized plasma.

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