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Conducting Particles in a Complex Plasma JORGE CARMONA, KE QIAO, VICTOR ZHANG, JAY MURPHEE, LORIN MATTHEWS, CASPER - Baylor University, TRUELL HYDE, CASPER-Baylor University — Complex plasma containing conducting grains is common across a number of research environments. In space such plasmas can be formed from dust left over after the formation of stellar and protoplanetary systems where iron rich meteors, containing remnants of primordial solar system material, offer a source for micron-sized metallic dust particles. Conducting dust particles are also common contaminants within both semi-conductor processing systems and fusion devices where they can create a host of problems. In this research, comparison and contrast studies were conducted employing both non-conducting and conducting particles immersed in a capacitively coupled RF plasma generated within a GEC reference cell. The data collected was analyzed employing both Voronoi diagrams and pair correlation functions with the results then compared to theoretical prediction.

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