

Abstract Submitted
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The Potential Field within a Biased Indium Tin Oxide Glass Box Located in a Dusty Plasma Environment JORGE CARMONA-REYES, LORIN MATTHEW, TRUELL HYDE, CASPER - Baylor University — The number of studies in complex plasmas have increased rapidly due to the field's ability to act as an analog for research in other areas such as metallic glasses in engineering, coulomb interactions in pure physics, and double helical formation in biophysics. Much of the data collected in such studies occurs inside a glass box placed on the lower powered electrode of a GEC rf reference cell. Recently, several research groups have expanded this technique through use of an Indium Tin Oxide (ITO) glass box for better control of the confining potential. Unfortunately, a proper understanding of the underlying physics producing the confinement inside either glass box is lacking. This work will provide results from a mapping of the potential well inside an ITO box, employing a user positioned reference probe installed in a Zyvex S-100 nanomanipulator. The shape of the potential well, the plasma sheath and the particle interaction inside the ITO box will be discussed.

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