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**The Dust Temperature Distribution Within a Dust Density Wave Formed in a Complex Plasma** ZHUANHAO ZHANG, KE QIAO, JIE KONG, LORIN MATTHEWS, TRUPELL HYDE, CASPER - Baylor University — In recent years, dust particles in complex plasma confined to a glass box placed on the lower powered electrode in a GEC rf reference cell have attracted attention. Phenomena such as dust chains, waves and vortices have all been observed under such conditions and in both terrestrial labs and micro-gravity experiments. This talk will discuss the spatial distribution of the dust temperature within a self-excited dust density wave produced inside a glass box such as the one described. It will be shown that by increasing the discharge power or reducing the neutral gas pressure, the dust cloud in which dust particles form stable chains can become unstable, producing a density wave. Due to instabilities within the wave, particles at different locations can oscillate at different equilibrium positions and different amplitudes, affecting the dust temperature.

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