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Spectrum Studies of a One-Dimensional Vertical Dust String JIE KONG, TRUELL HYDE, LORIN MATTHEWS, KE QIAO, ZHUANHAO ZHANG, CASPER, Baylor University — A vertical dust string is formed at the center of a glass box placed on the lower electrode inside a GEC cell. Through modulation of an external DC bias applied to the lower electrode, the oscillation spectrum of this one-dimensional vertical dust string was investigated. Individual particle oscillation amplitudes, resonance frequencies, damping and relative oscillation phases were compared in order to analyze the interparticle interactions within the string. Both experimental and analytical results will be presented.

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