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Mode Coupling and Resonance Instabilities in a Dust Chain KE QIAO, JIE KONG, LORIN MATTHEWS, TRUELL HYDE, CASPER - Baylor University — Mode couplings and resonance instabilities have recently received tremendous attention in both large plasma crystals [1] and small dust clusters [2, 3]. In this research, normal modes are investigated using both simulation and experiment to examine a horizontal finite chain consisting of 3-50 dust particles in a complex plasma. The resultant mode coupling and resonance instabilities are analyzed and compared with previous research on large crystals and circular dust clusters.

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