

Abstract Submitted
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Structure of Debye clusters in a biharmonic potential well T.E. SHERIDAN, D.J. PLESHINGER, Ohio Northern University — We experimentally investigate the arrangement of nearly identical charged dust particles confined in a two-dimensional biharmonic potential well. As the well shape changes from elliptical (anisotropic) to circular (isotropic), we find that clusters with $n = 6$ and 8 particles change from an elliptical configuration where all particles lie on the edge to a configuration with one central particle surrounded by the remaining $n - 1$ particles. The mechanism for this transition is identified as a transverse instability in the finite two-chain configuration.

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