

## Influences of Temperature and Average Interparticle Distance on the Properties of Two-Dimensional Dusty Plasma

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**Abstract:** The structure and single-particle motion of a two-dimensional dusty plasma have been investigated. Pair correlation function, mean square displacement, velocity autocorrelation function, and the corresponding spectrum function have been computed by molecular dynamical simulation. The results show that the coagulation of a two-dimensional dusty plasma system is strongly affected by particle density and temperature, which are discussed in details.

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Key words: dusty plasma, molecular dynamics simulation, structure, single particle motion

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