

## Effect of Particle's Size on the Structural and Dynamical Properties in 2D Dusty Plasma

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**Abstract:** In a two-dimensional (2D) dusty plasma system, the size of particles is considered under two different interparticle potentials (Yukawa potential and Dressed potential). The structural and dynamical characters are investigated by molecular dynamics simulation respectively. The results show that the 2D systems via Yukawa and Dressed potentials have a different critical coupling constant  $\Gamma$  corresponding to the systems beginning to coagulate and exhibit different crystal configurations. Also we find that the size of particles has little influence on the 2D system's structure characters.

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Key words: 2D dusty plasma, Yukawa potential, dressed potential

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