

## Crystal – like structure in two dimensional dusty plasmas

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The massive, negatively charged dust grains are considered as discrete particles, while the electrons and ions assume to be distributed by Boltzmannian with the same temperatures,  $T_e = T_i = T$ . Assuming the grains to be conductors and charge of grain depend on the surface potential of the grain. The Poisson equation for small potentials takes then the form of the Schrodinger equation. The spatial distribution of the potential in the lattice includes the effect of whole system of dust particles. Such a self consistent description gives the dispersion relation for the dust lattice waves. It is shown that for the existence of ideal lattice the dusty plasma parameters must satisfy the definite relation. The calculation are carried out for two dimensional lattice putting the cyclic boundary condition on dust grains.

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