COMPUTER SIMULATIONS OF CHARGE FLUCTUATIONS IN DUSTY PLASMAS

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S u m m a r y

Charge fluctuations in dusty plasmas (DP) are studied by means of Brownian dynamics (BD) computer simulations and within the drift-diffusion (DD) approach. For a dust grain embedded in the weakly ionized isothermal background, the statistical properties of fluctuations are found to be close to the equilibrium ones. The simulations evidence for that the correlations of fluctuations decrease exponentially with time while the correlation time is proportional to the squared Debye length. It is shown that the charge variance is close to the inverse coupling parameter, regardless of the other parameters of the problem.