

NORMAL AND ANOMALOUS DIFFUSION OF GRAINS

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S u m m a r y

The problem of normal and anomalous space diffusion is formulated on the basis of the appropriate probability transition function for diffusion (PTD function). The method of fractional differentiation with respect to spatial coordinates is avoided to construct the correct probability distributions for arbitrary distances, which is important for applications to different stochastic problems. A general integral equation for a particle distribution, which contains the time-dependent PTD function with two times, is formulated and discussed. On this basis, the fractional differentiation with respect to time is also avoided and a wide class of time dependent PTD functions can be investigated.