



## Dynamics of Stochastic Systems (Paperback)

By Valery I Klyatskin

ELSEVIER SCIENCE TECHNOLOGY, United Kingdom, 2005.  
 Paperback. Book Condition: New. New.. 236 x 163 mm.  
 Language: English . Brand New Book. Fluctuating parameters appear in a variety of physical systems and phenomena. They typically come either as random forces/sources, or advecting velocities, or media (material) parameters, like refraction index, conductivity, diffusivity, etc. The well known example of Brownian particle suspended in fluid and subjected to random molecular bombardment laid the foundation for modern stochastic calculus and statistical physics. Other important examples include turbulent transport and diffusion of particle-tracers (pollutants), or continuous densities ( oil slicks ), wave propagation and scattering in randomly inhomogeneous media, for instance light or sound propagating in the turbulent atmosphere. Such models naturally render to statistical description, where the input parameters and solutions are expressed by random processes and fields. The fundamental problem of stochastic dynamics is to identify the essential characteristics of system (its state and evolution), and relate those to the input parameters of the system and initial data. This raises a host of challenging mathematical issues. One could rarely solve such systems exactly (or approximately) in a closed analytic form, and their solutions depend in a complicated implicit manner on the initial-boundary data,...



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