



# Stochastic Equations: Theory and Applications in Acoustics, Hydrodynamics, Magnetohydrodynamics, and Radiophysics, Volume 1 [ Basic Concepts, Exact Results, and Asymptotic Approximations /

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Monografía

This monograph set presents a consistent and self-contained framework of stochastic dynamic systems with maximal possible completeness. Volume 1 presents the basic concepts, exact results, and asymptotic approximations of the theory of stochastic equations on the basis of the developed functional approach. This approach offers a possibility of both obtaining exact solutions to stochastic problems for a number of models of fluctuating parameters and constructing various asymptotic buildings. Ideas of statistical topography are used to discuss general issues of generating coherent structures from chaos with probability one, i.e., almost in every individual realization of random parameters. The general theory is illustrated with certain problems and applications of stochastic mathematical physics in various fields such as mechanics, hydrodynamics, magnetohydrodynamics, acoustics, optics, and radiophysics. .

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