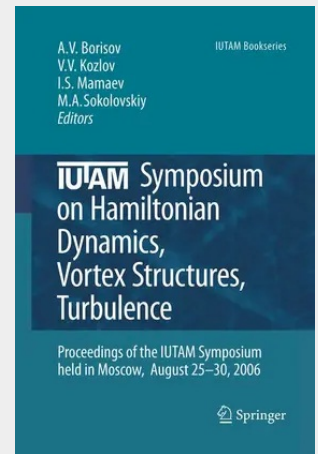


IUTAM Symposium on Hamiltonian Dynamics, Vortex Structures, Turbulence

Proceedings of the IUTAM Symposium held in Moscow, 25-30 August, 2006

This work brings together previously unpublished notes contributed by participants of the IUTAM Symposium on Hamiltonian Dynamics, Vortex Structures, Turbulence (Moscow, 25-30 August 2006). The study of vortex motion is of great interest to fluid and gas dynamics: since all real flows are vortical in nature, applications of the vortex theory are extremely diverse, many of them (e.g. aircraft dynamics, atmospheric and ocean phenomena) being especially important. The last few decades have shown that serious possibilities for progress in the research of real turbulent vortex motions are essentially related to the combined use of mathematical methods, computer simulation and laboratory experiments. These approaches have led to a series of interesting results which allow us to study these processes from new perspectives. Based on this principle, the papers collected in this proceedings volume present new results on theoretical and applied aspects of the processes of formation and evolution of various flows, wave and coherent structures in gas and fluid. Much attention is given to the studies of nonlinear regular and chaotic regimes of vortex interactions, advective and convective motions. The contributors are leading scientists engaged in fundamental and applied aspects of the above mentioned fields.

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