Vortex methods and vortex motion

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Abstrak

Vortex methods have emerged as a new class of powerful numerical techniques to analyze and compute vortex motion. This book addresses the theoretical, numerical, computational, and physical aspects of vortex methods and vortex motion. Vortex phenomena in fluid flows and the experimental, theoretical, and numerical methods used to characterize them are discussed in reviews by leading experts. Extensive photographs and sample computer graphics are provided.

The development of large vortex structure in fluid flow is responsible for some of the most fascinating aspects of fluid dynamics, such as mixing, shearing, transport, and instability. Such issues arise in a variety of flow regimes, ranging from fundamental mathematical questions in laminar, transitional, and turbulent flow to sophisticated engineering settings and devices.