



## Vortex Wakes of Aircrafts

By A. I. Zhelannikov

Springer. Paperback. Condition: New. 154 pages. Dimensions: 9.2in. x 6.1in. x 0.4in. Investigation of vortex wakes behind various aircraft, especially behind wide bodied and heavy cargo ones, is of both scientific and practical interest. The vortex wakes shed from the wings trailing edge are long lived and attenuate only at distances of 10-12 km behind the wake generating aircraft. The encounter of other aircraft with the vortex wake of a heavy aircraft is open to catastrophic hazards. For example, air refueling is a dangerous operation partly due to the possibility of the receiver aircrafts encountering the trailing wake of the tanker aircraft. It is very important to know the behavior of vortex wakes of aircraft during their takeoff and landing operations when the wakes can propagate over the airports ground surface and be a serious hazard to other departing or arriving aircraft. This knowledge can help in enhancing safety of aircrafts movements in the terminal areas of congested airports where the threat of vortex encounters limits passenger throughput. Theoretical investigations of aircraft vortex wakes are being intensively performed in the major aviation nations. Used for this purpose are various methods for mathematical modeling of turbulent flows: direct numerical simulation based on the Navier-Stokes equations, large eddy simulation using the Navier-Stokes equations in combination with subgrid scale modeling, simulation based on...



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