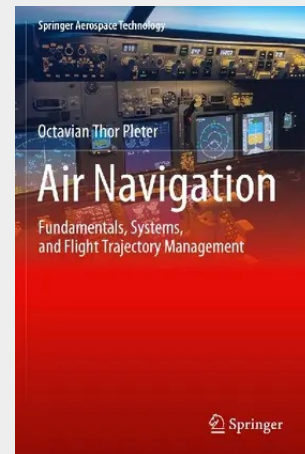


Air Navigation

Fundamentals, Systems, and Flight Trajectory Management

This book takes a new approach to air navigation, extending the classic scope of positioning and guidance to efficient and safe 4D flight trajectory management. Modern air navigation aims at flight trajectories optimisation. There is an infinite number of solutions to the classic navigation problem of flying from one airport to another, but most of them are wasteful of resources and even risky. Minimising all costs and risks incurred by the 4D flight trajectory makes air navigation both efficient and safe, which are key factors in air navigation services. Beyond minimising fuel burn and CO₂, efficiency addresses non-CO₂ emissions and noise. This is a visually intensive book, using examples and case studies to illustrate the concepts, the physics of navigation and the mathematical models involved. Numerical examples reflect its problem-solving nature. It is useful to aerospace students, engineers, pilots, air traffic controllers, technicians, and scientists curious about aviation.

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