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Powering of ships: general principles; Fluid dynamics; Components of resistance and propulsion; Model testing; Ship trials; Summary; Problems; Chapter 11. Powering of ships: application; Presentation of data; Power estimation; Computational fluid dynamics; Summary; Problems; Chapter 12. Seakeeping; Seakeeping qualities; Ship motions; Limiting seakeeping criteria; Overall seakeeping performance; Acquiring data for seakeeping assessments; Non-linear effects Frequency domain and time domain simulations Improving seakeeping performance; Experiments and trials; Problems; Chapter 13. Manoeuvrability; General concepts; Assessment of manoeuvrability; Rudder forces and torques; Experiments and trials; Rudder types and systems; Ship handling; Stability and control of submarines; Design assessment; Effect of design parameters on manoeuvring; Problems; Chapter 14. Major ship design features; Machinery; Systems; Equipment; Creating a fighting ship; Accommodation; Measurement; Problems; Chapter 15. Ship design; Objectives; Boundaries; Creativity Iteration in design Design for the life intended; Conclusion; Chapter 16. Particular ship types; Passenger ships; Ferries and RoRo ships; Aircraft carriers; Bulk cargo carriers; Submarines; Container ships; Frigates and destroyers; High speed small craft; Offshore engineering; Tugs; Fishing vessels; Yachts; Annex-The Froude 'constant' notation (1888); Bibliography; Answers to problems; Index

Sommario/riassunto

Rawson and Tupper's Basic Ship Theory, first published in 1968, is widely known as the standard introductory text for naval architecture students, as well as being a useful reference for the more experienced designer. The fifth edition continues to provide a balance between theory and practice. Volume 1 discusses ship geometry and measurement in its more basic concepts, also covering safety issues, structural strength, flotation, trim and stability. Volume 2 expands on the material in Volume 1, covering the dynamics behaviour of marine vehicles, hydrodynamics, manoeuvrability and seake