Shallow water and supercritical ships

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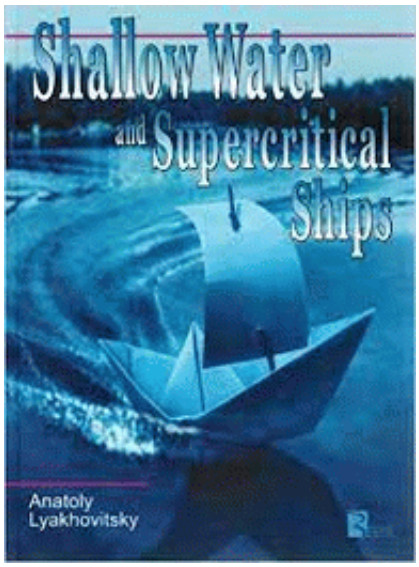
Résumé ou extrait : This monograph presents systematic and detailed results of studying the hydrodynamics of ships in shallow water. This problem become increasingly important due to the current trend of building larger and faster ships, for which shallow water effect manifests in greater water depths. The author explains in detail how ship performance declines in shallow water at speeds approaching critical speed, and how attempts to boost the engine propulsion can be wasteful if the ship is not designed for optimal regimes at subcritical speeds with ability to transit to supercritical regimes. Detailed description is also given to how the energy intended to propel a ship at near-critical speeds in shallow water is wasted on generating destructive and dangerous waves. The solitary wave phenomenon is considered, as well as ways to take advantage of traveling at supercritical speeds with enhanced propulsive efficiency and mitigated wake wash.

Sujet(s) : Hauts-fonds

Sujet - Nom commun : Navires -- Hydrodynamique
Fonds marins
Niveau des eaux

Image de présentation : 

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