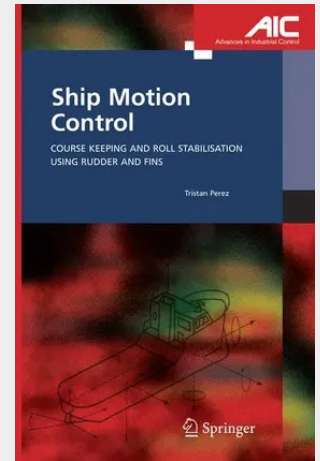


Ship Motion Control

Course Keeping and Roll Stabilisation Using Rudder and Fins

Demand for this book will come from practising naval engineers who need the latest research in stabilization for their designs, from academic control engineers working with stabilization systems and from academics and students in control or marine engineering looking for up-to-date background or for ideas for academic project work.

engineers into a single volume whilst concentrating on two important research control design problems: autopilots with rudder-roll stabilization and fin and combined rudder-fin stabilization. He has been guided by some of the leading marine control academics, in particular Mogens Blanke and Thor Fossen; indeed Chapters 3 and 4 on kinematics and kinetics of ship motion are jointly authored with Professor Fossen. There are some 240 cited references - an invaluable resource for interested readers. The volume is likely to appeal to a wide range of readers who will each be able to extract something different from the various parts of the monograph. Part I has some four chapters on the modelling fundamentals including kinematics, dynamics and actuators. Part II is a very useful survey of the ship roll stabilization problem and how ship roll performance is measured and assessed. This clearly motivates the human necessity for roll-reduction and roll stabilization. Parts III and IV move on to the control systems aspects of the various stabilization designs. Valuable material here includes a study of system performance limitations as caused by the presence of non-minimum phase characteristics and actuator saturation. Chapter 10 has an interesting historical review of these marine control problems stretching back some thirty-years into the 1970s.



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