

Contents

Chapter I Selection of Design Data

| | |
|--|----|
| The Choice of Basic Design Principles for a Liner Operation, <i>J. Groenendijk</i> | 3 |
| Increasing the Scale of Operation in Liner Shipping, <i>Dr. H. J. Molenaar</i> | 15 |
| Operations Research for Ship Design, <i>Dr. Ir. J. S. Folkers</i> | 26 |
| Computers in Ship Design, <i>Ir. A. W. Ruys</i> | 37 |
| Application of an Optimisation Algorithm to Ship Design, <i>Ir. P. Spek</i> | 56 |

Chapter II Shipyard Production - Operational Research

| | |
|--|-----|
| Statistical Analysis, <i>Prof. Ir. J. W. Sieben</i> | 81 |
| Operational Research, <i>Prof. Ir. W. Monhemius</i> | 92 |
| Operations Research in the Field of Production, <i>Drs. F. Remmen</i> | 100 |
| Operations Research as a Tool of Shipbuilding Management, <i>Prof. Mr. Drs. H. Langman</i> | 112 |

Chapter III Ship Propulsion

| | |
|--|-----|
| <i>Prof. Dr. Ir. J. D. van Manen</i> | 117 |
| Unsteady Lifting Surface Theory, <i>Ir. G. Kuiper</i> | 125 |
| Cavitation and Cavitation, <i>Ir. J. H. J. van der Meulen</i> | 151 |
| Ducted Propellers, <i>Ir. M. W. C. Oosterveld</i> | 172 |
| Hydrodynamics of Controllable Pitch Propellers, <i>Ir. L. A. van Gunsteren</i> | 212 |

Chapter IV Seakeeping and Manoeuvring Qualities

| | |
|---|-----|
| <i>Prof. Ir. J. Gerritsma</i> | 253 |
| The Dynamical Behaviour of a Floating Drilling Platform, <i>Ir. J. P. Hooft</i> | 260 |
| Rolling and Roll Damping, <i>Ir. J. H. Vugts</i> | 286 |
| Simulation of Ship Manoeuvring Qualities, <i>Ir. J. B. van den Brug</i> | 315 |

Chapter V Strength of Ships

| | |
|--|-----|
| Design Stage Prediction Technique for Ship Vibrations, <i>Dr. Ir. R. Wereldsma</i> | 337 |
| The Finite Element Method in Ship Design, <i>Ir. S. Hylarides</i> | 407 |
| Permissible Stresses and their Limitations | 455 |

Chapter VI Engine room

| | |
|--|-----|
| Propulsion Systems viewed as Energy Transforming and Transporting Systems, <i>Prof. Ir. W. Vinke</i> | 491 |
| Thermodynamic Principles of Thermal Energy Convertors in view of Modern Systems Analysis, <i>Ir. J. Rietman</i> | 527 |
| Control Aspects of Ship Propulsion by Steam, <i>Ir. F. J. Abbink</i> | 551 |
| System Dynamics and Control Aspects of a Gasturbine Driven Frigate Propelled by Two Controllable Pitch Propellers, <i>Ir. W. Schatborn</i> | 578 |
| Optimization of a Diesel-Propulsion Installation with Adjustable Screw, <i>Ir. J. A. M. ter Horst</i> | 617 |
| A Practical Example of a Remote Control System, <i>I. Lustig</i> | 624 |

Chapter VII Behaviour of Ships under Service Conditions

| | |
|---|-----|
| Ship-Model Correlation and Service Roughness Allowances, <i>Ir. J. J. Muntjerwerf</i> | 637 |
| Sustained Sea Speed, <i>Prof. Ir. J. Gerritsma</i> | 708 |
| Optimal routing of ships, <i>Ir. W. D. Moens</i> | 745 |
| Some Practical Experience with Vessel Behaviour in a Seaway and Ship Weather Routing, <i>A. Wepster</i> | 766 |

Chapter VIII Cargo Handling

| | |
|--|-----|
| <i>Prof. Ir. G. Prins</i> | 783 |
| Commodities, <i>Ir. G. C. Meeuse</i> | 785 |
| Transshipment of General Cargo, <i>C. Storm</i> | 797 |
| Transshipment of Bulk Material, <i>Ir. W. H. Engelkes</i> | 804 |
| The Impact of Operational Changes on the Design of the Modern Cargo Vessel, <i>M. C. Kieft</i> | 824 |