

Ocean Wave Energy

[DOWNLOAD HERE](#)

1;Preface;5 2;Contents;6 3;1 Introduction;11 3.1;1.1 Wave Energy Literature;12 3.2;1.2 Chapter Layout;14 3.3;References;16 4;2 Looking Back;17 4.1;2.1 Wave Energy at the University of Edinburgh;18 4.2;2.2 Looking Forward;45 4.3;Acknowledgements;48 4.4;References References References References;48 5;3 The Theory Behind the Conversion of Ocean Wave Energy: a Review;50 5.1;3.1 Introduction;50 5.2;3.2 Terminology and Concepts;52 5.3;3.3 Preliminary Considerations;56 5.4;3.4 The Hydrodynamics of Offshore Devices;61 5.5;3.5 Optimal Hydrodynamic Performance;68 5.6;3.6 Control and Design;78 5.7;3.7 The Oscillating Water Column;88 5.8;3.8 Discussion;97 5.9;References;98 6;4 The Wave Energy Resource;101 6.1;4.1 The Resource and its Origin;101 6.2;4.2 Sea States and their Energy;112 6.3;4.3 Wave Growth, Travel and Decay;123 6.4;4.4 Wave Climate Estimation;124 6.5;4.5 Wave Energy in Shallow Water;136 6.6;4.6 Discussion;138 6.7;References;138 7;5 Numerical and Experimental Modelling of WECs;141 7.1;5.1 Fundamentals of Numerical Modelling;141 7.2;5.2 Wave Tank and Wavemaker Design;155 7.3;5.3 Guidelines for Laboratory Testing of WECs;168 7.4;5.4 Case Study: Pelamis;177 7.5;5.5 Discussion;192 7.6;References;192 8;6 Power Take-Off Systems;197 8.1;6.1 Air Turbine Design for OWCs;197 8.2;6.2 Direct Drive Linear Generators;228 8.3;6.3 Hydraulics;249 8.4;6.4 Alternative Applications: Desalination;269 8.5;6.5 Discussion;286 8.6;References;287 9;7 Full-Scale WECs;294 9.1;7.1 Oscillating Water Column;294 9.2;7.2 Archimedes Wave Swing (AWS);304 9.3;7.3 Pelamis;311 9.4;7.4 Wave Dragon;328 9.5;7.5 Operational Experience;342 9.6;7.6 Test Centres, Pilot Zones and European Cooperation;390 9.7;7.7 Discussion;400 9.8;References;400 10;8 Environmental Impact Assessment;403 10.1;8.1 Legislation and Administrative Issues;404 10.2;8.2 Scientific Matters;413 10.3;8.3 Case Studies;423 10.4;8.4 Discussion;425 10.5;References;425 11;Author Index;430 12;Index;433 EAN/ISBN : 9783540748953 Publisher(s): Springer, Berlin Format: ePub/PDF Author(s): Cruz, Joao

[DOWNLOAD HERE](#)

Similar manuals:

[Ocean Wave Energy](#)