1. Record Nr. UNINA9910437776103321

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Titolo	The Kuroshio Power Plant / / Falin Chen
Pubbl/distr/stampa	Cham ; ; New York, : Springer, c2013
ISBN	3-319-00822-6
Edizione	[1st ed. 2013.]
Descrizione fisica	1 online resource (xiii, 225 pages) : illustrations (some color), color maps
Collana	Lecture notes in energy ; ; 15
Disciplina	621.042
Soggetti	Power-plants Turbines
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"ISSN: 2195-1284."
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	1.Hydrology, Ecology and Environment of Kuroshio Waters -- 2. Conceptual Design of Kuroshio Power Plant -- 3.Dynamic Analysis and Design of Turbine -- 4.Dynamic Design of the Relay Platform and Anchor System -- 5.Assessment of Environmental and Ecological Impacts -- 6.The 30MW Pilot Power Plant -- App.A.Global underwater turbine catalog -- App.B.Performance and patent data for the Gulf Stream Turbine -- App.C.Shape functions, stiffness and mass matrices of elements -- App.D.Options of the universal joint -- App.E. Comparison of construction costs for tidal power plants and Kuroshio power plants.
Sommario/riassunto	By outlining a new design or the Kuroshio power plant, new approaches to turbine design, anchorage system planning, deep sea marine engineering and power plant operations and maintenance are explored and suggested. The impact on the local environment, particularly in the face of natural disasters, is also considered to provide a well rounded introduction to plan and build a 30MW pilot power plant. Following a literature review, the six chapters of this book propose a conceptual design by focusing on the plant’s core technologies and establish the separate analysis logics for turbine design and the relay platforms. This is tempered against the ecological impact of both the construction and operation of the plant. These proposed technologies and plans can be further applied to power generation in other waters such as the Gulf Stream, the East Australian Current the Humboldt Current and the East

Africa Coastal Current. Engineers, students and industry professionals are provided with a solid introduction to power plant technology as well as a design with specific real world applications.