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Soggetti	Computer mathematics Environmental sciences Environmental pollution Ocean engineering Mathematical physics Organic chemistry Computational Science and Engineering Environmental Science and Engineering Terrestrial Pollution Offshore Engineering Theoretical, Mathematical and Computational Physics Organic Chemistry
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Nota di contenuto	1. Variability of the Deep water Horizon Surface Oil Spill Extent and its Relationship to Varying Ocean Currents and Extreme Weather Conditions: Gustavo J. Goni, Joaquin A. Trinanes, Amy MacFadyen, Davida Streett, María Josefina Olascoaga, Marc L. Imhoff, Frank Muller-Karger and Mitchell A. Roffer -- 2. A Strategy for Bioremediation of Marine Shorelines by Using Several Nutrient Release Points: David Parra-Guevara and Yuri N. Skiba -- 3. Prediction of the Formation of Water-in-Oil Emulsions: Merv Fingas -- 4. Equilibrium Theory of Bidensity Particle-Laden Flows on an Incline: Sungyon Lee, Jeffrey Wong and Andrea L. Bertozzi. 5 Operational Oil Spill Modelling: From Science

to Engineering Applications in the Presence of Uncertainty: Ben R. Hodges, Alejandro Orfila, Juan M. Sayol and Xianlong Hou -- 6. Application of a Numerical Statistical Model to Estimate Potential Oil Spill Risk: Weijun Guo and Tiaojian Xu -- 7 Structural Analysis of Oil-Spill Booms: Frédéric Muttin.

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Sommario/riassunto

Written by outstanding experts in the fields of marine engineering, atmospheric physics and chemistry, fluid dynamics and applied mathematics, the contributions in this book cover a wide range of subjects, from pure mathematics to real-world applications in the oil spill engineering business. Offering a truly interdisciplinary approach, the authors present both mathematical models and state-of-the-art numerical methods for adequately solving the partial differential equations involved, as well as highly practical experiments involving actual cases of ocean oil pollution. It is indispensable that different disciplines of mathematics, like analysis and numerics, together with physics, biology, fluid dynamics, environmental engineering and marine science, join forces to solve today's oil pollution problems. The book will be of great interest to researchers and graduate students in the environmental sciences, mathematics and physics, showing the broad range of techniques needed in order to solve these pollution problems; and to practitioners working in the oil spill pollution industry, offering them a professional reference resource.

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