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Nota di contenuto	1.Finite Element Analysis of 3D Frame Structures -- 2.Introduction to Random Vibration and Stochastic Analysis -- 3.Water Wave Theories and Wave Loads -- 4.Spectral Analysis of Offshore Structures Under Wave and Earthquake Loadings -- 5. Fatigue Analysis of Offshore Structures -- 6.Reliability Analysis of Offshore Structures -- 7. Optimization of Offshore Structures.
Sommario/riassunto	Stochastic Analysis of Offshore Steel Structures provides a clear and detailed guide to advanced analysis methods of fixed offshore steel structures using 3D beam finite elements under random wave and

earthquake loadings. Advanced and up-to-date research results are coupled with modern analysis methods and essential theoretical information to consider optimal solutions to structural issues. As these methods require and use knowledge of different subject matters, a general introduction to the key areas is provided. This is followed by in-depth explanations supported by design examples, relevant calculations and supplementary material containing related computer programmes. By combining this theoretical and practical approach Stochastic Analysis of Offshore Steel Structures cover a range of key concepts in detail including:

- The basic principles of standard 3D beam finite elements and special connections,
- Wave loading - from hydrodynamics to the calculation of wave loading on structural members,
- Stochastic response calculations with corresponding solution algorithms including earthquakes, and
- Fatigue damage, reliability calculation and reliability based design optimization.

The broad and detailed coverage makes this a solid reference for research oriented studies and practical sophisticated design methods. Students, researchers, insuring bodies and practical designer offices can turn to Stochastic Analysis of Offshore Steel Structures to broaden their theoretical understanding and develop their practical designs and applications of 3D finite analysis in fixed offshore steel structures.
