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Descrizione fisica	1 online resource (144 p.)
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Soggetti	Computer mathematics Geotechnical engineering Fluids Applied mathematics Engineering mathematics Computational Science and Engineering Geotechnical Engineering & Applied Earth Sciences Fluid- and Aerodynamics Mathematical and Computational Engineering Applications of Mathematics
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Nota di contenuto	Introduction -- Wave Equation Solver -- Adjoint Optimization -- Adjoint Optimization -- Full Waveform Inversion -- Perspective -- Appendices.- References.
Sommario/riassunto	This book reviews the field of helioseismology and its outstanding challenges and also offers a detailed discussion of the latest computational methodologies. The focus is on the development and implementation of techniques to create 3-D images of convection and magnetism in the solar interior and to introduce the latest computational and theoretical methods to the interested reader. With the increasing availability of computational resources, demand for greater accuracy in the interpretation of helioseismic measurements and the advent of billion-dollar instruments taking high-quality observations, computational methods of helioseismology that enable

probing the 3-D structure of the Sun have increasingly become central. This book will benefit students and researchers with proficiency in basic numerical methods, differential equations and linear algebra who are interested in helioseismology.
