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Descrizione fisica	1 online resource (xxii, 234 pages) : digital, PDF file(s)
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Nota di bibliografia	Includes bibliographical references (p. 186-194) and indexes.
Nota di contenuto	1. Variational assimilation -- 2. Interpretation -- 3. Implementation -- 4. The varieties of linear and nonlinear estimation -- 5. The ocean and the atmosphere -- 6. Ill-posed forecasting problems. App. B. Euler-Lagrange equations for a numerical weather prediction model.
Sommario/riassunto	Inverse Modeling of the Ocean and Atmosphere is a graduate-level book for students of oceanography and meteorology, and anyone interested in combining computer models and observations of the hydrosphere or solid earth. A step-by-step development of maximally efficient inversion algorithms, using ideal models, is complemented by computer codes and comprehensive details for realistic models. Variational tools and statistical concepts are concisely introduced, and applications to contemporary research models, together with elaborate observing systems, are examined in detail. The book offers a review of

the various alternative approaches, and further advanced research topics are discussed. Derived from the author's lecture notes, this book constitutes an ideal course companion for graduate students, as well as being a valuable reference source for researchers and managers in theoretical earth science, civil engineering and applied mathematics.

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