

1. Record Nr.	UNINA9910139817503321
Titolo	Exploring the Atmosphere by Remote Sensing Techniques [[electronic resource] /] / edited by Rodolfo Guzzi
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2003
ISBN	3-540-36536-2
Edizione	[1st ed. 2003.]
Descrizione fisica	1 online resource (XII, 264 p.)
Collana	Lecture Notes in Physics, , 0075-8450 ; ; 607
Disciplina	551.5110287
Soggetti	Geophysics Earth sciences Atmospheric sciences Lasers Photonics Geophysics/Geodesy Earth Sciences, general Atmospheric Sciences Optics, Lasers, Photonics, Optical Devices
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Global Measurement Networks for Atmospheric Studies -- Atmospheric Observations in the Perspective of Changing Climate and Environment, and the Synergy Between Ground-Based, Airborne and Space-Based Measurements -- A Review of Forward-Modeling Requirements -- Electromagnetic Scattering by Nonspherical Particles -- Modelling Information Content Problems of the Radiative Transfer Theory -- The Earth Radiation -- Analytical Inverse Methods for Aerosol Retrieval -- Studying Atmospheric Aerosol by Lidar -- Remote Sounding of the Stratosphere by the Occultation Method: The ORA Experiment.
Sommario/riassunto	Only satellite-based remote-sensing instruments generate the wealth of global data on the concentrations of atmospheric constituents that are necessary for long-term monitoring of the atmosphere. This set of courses and lectures sponsored by ICTP in Trieste focuses on remote sensing for atmospheric applications and inverse methods to assess

atmospheric components, gases, aerosols and clouds. It addresses primarily graduate students and young researchers in the atmospheric sciences but will be useful for all those wishing to study various techniques for exploring the atmosphere by remote sensing. Contributions span topics such as on IGOS (Integrated Global Observing Strategy), electromagnetic scattering by non-spherical particles, forward-modelling requirements and the information content problem, Earth radiation, and aerosol monitoring by LIDAR.

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