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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.