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Autore	Elachi Charles
Titolo	Introduction to the physics and techniques of remote sensing [[electronic resource]]
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Collana	Wiley series in remote sensing
Altri autori (Persone)	Van ZylJakob <1967->
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Lingua di pubblicazione	Inglese
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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction to the Physics and Techniques of Remote Sensing; Contents; Preface; 1 Introduction; 1-1 Types and Classes of Remote Sensing Data; 1-2 Brief History of Remote Sensing; 1-3 Remote Sensing Space Platforms; 1-4 Transmission Through the Earth and Planetary Atmospheres; References and Further Reading; 2 Nature and Properties of Electromagnetic Waves; 2-1 Fundamental Properties of Electromagnetic Waves; 2-1-1 Electromagnetic Spectrum; 2-1-2 Maxwell's Equations; 2-1-3 Wave Equation and Solution; 2-1-4 Quantum Properties of Electromagnetic Radiation; 2-1-5 Polarization; 2-1-6 Coherency 2-1-7 Group and Phase Velocity2-1-8 Doppler Effect; 2-2 Nomenclature and Definition of Radiation Quantities; 2-2-1 Radiation Quantities; 2-2-2 Spectral Quantities; 2-2-3 Luminous Quantities; 2-3 Generation of Electromagnetic Radiation; 2-4 Detection of Electromagnetic Radiation; 2-5 Interaction of Electromagnetic Waves with Matter: Quick Overview; 2-6 Interaction Mechanisms Throughout the Electromagnetic Spectrum; Exercises; References and Further

Reading; 3 Solid Surfaces Sensing in the Visible and Near Infrared; 3-1 Source Spectral Characteristics; 3-2 Wave-Surface Interaction Mechanisms
3-2-1 Reflection, Transmission, and Scattering3-2-2 Vibrational Processes; 3-2-3 Electronic Processes; 3-2-4 Fluorescence; 3-3 Signature of Solid Surface Materials; 3-3-1 Signature of Geologic Materials; 3-3-2 Signature of Biologic Materials; 3-3-3 Depth of Penetration; 3-4 Passive Imaging Sensors; 3-4-1 Imaging Basics; 3-4-2 Sensor Elements; 3-4-3 Detectors; 3-5 Types of Imaging Systems; 3-6 Description of Some Visible/Infrared Imaging Sensors; 3-6-1 Landsat-Enhanced Thematic Mapper Plus (ETM+); 3-6-2 Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER)
3-6-3 Mars Orbiter Camera (MOC)3-6-4 Mars Exploration Rover Panchromatic Camera (Pancam); 3-7 Active Sensors; 3-8 Surface Sensing at Very Short Wavelengths; 3-8-1 Radiation Sources; 3-8-2 Detection; 3-9 Image Data Analysis; 3-9-1 Detection and Delineation; 3-9-2 Classification; 3-9-3 Identification; Exercises; References and Further Reading; 4 Solid-Surface Sensing: Thermal Infrared; 4-1 Thermal Radiation Laws; 4-1-1 Emissivity of Natural Terrain; 4-1-2 Emissivity from the Sun and Planetary Surfaces; 4-2 Heat Conduction Theory; 4-3 Effect of Periodic Heating
4-4 Use of Thermal Emission in Surface Remote Sensing4-4-1 Surface Heating by the Sun; 4-4-2 Effect of Surface Cover; 4-4-3 Separation of Surface Units Based on Their Thermal Signature; 4-4-4 Example of Application in Geology; 4-4-5 Effects of Clouds on Thermal Infrared Sensing; 4-5 Use of Thermal Infrared Spectral Signatures in Sensing; 4-6 Thermal Infrared Sensors; 4-6-1 Heat Capacity Mapping Radiometer; 4-6-2 Thermal Infrared Multispectral Scanner; 4-6-3 ASTER Thermal Infrared Sensor; 4-6-4 Spitzer Space Telescope; 4-6-5 2001 Mars Odyssey Thermal Emission Imaging System (THEMIS)
4-6-6 Advanced Very High Resolution Radiometer (AVHRR)

Sommario/riassunto

The science and engineering of remote sensing--theory and applicationsThe Second Edition of this authoritative book offers readers the essential science and engineering foundation needed to understand remote sensing and apply it in real-world situations. Thoroughly updated to reflect the tremendous technological leaps made since the publication of the first edition, this book covers the gamut of knowledge and skills needed to work in this dynamic field, including:* Physics involved in wave-matter interaction, the building blocks for interpreting data* Techniques used to

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Autore	Ju Yiwen
Titolo	Nanomineralogy
Pubbl/distr/stampa	Basel, Switzerland, : MDPI - Multidisciplinary Digital Publishing Institute, 2020
Descrizione fisica	1 online resource (350 p.)
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Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
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Sommario/riassunto	In 2018, the International Symposium on Nanogeoscience was held in Guiyang, China. Scholars from around the globe gathered to discuss recent progress and development trends in various aspects of nanogeoscience, including nanomineralogy. Nanomineralogy, an important aspect of nanogeoscience, focuses on the composition, structure, and physical and chemical properties of nanoscale minerals and their interrelations with other Earth critical components. To give a sampling of the latest progress in nanomineralogy and related fields, we offer this Special Issue, which describes a full range of recent nanomineralogic achievements relating to everything from nanominerals and geochemistry, mineral nanostructures, and nanomineral deformation, to nanopores in oil and gas reservoirs, nanomineral deposits, and nanomineral material. Today, nanomineralogy faces a new strategic opportunity as well as a revolutionary challenge. We thus present this special nanomineralogy-focused issue of Minerals with the aim of encouraging our colleagues to familiarize themselves with current developments, trends, and directions in nanomineralogy, enabling an understanding of the potential of the field as a whole. We look forward to developing further scientific research and cooperation in nanomineralogy, hoping thereby to attract and guide young scholars to participate in this field.