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Autore	Wacker Paul F (Paul Frederick)
Titolo	A qualitative survey of near-field analysis and measurement / / Paul F. Wacker
Pubbl/distr/stampa	Gaithersburg, MD : , : U.S. Dept. of Commerce, National Institute of Standards and Technology, , 1979
Descrizione fisica	1 online resource
Collana	NBSIR ; ; 79-1602
Altri autori (Persone)	WackerPaul F (Paul Frederick)
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Formato	Materiale a stampa
Livello bibliografico	Monografia
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Nota di bibliografia	Includes bibliographical references.

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Autore	Garcia-Leon M (Manuel)
Titolo	Detecting Environmental Radioactivity / / by Manuel García-León
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2022
ISBN	9783031099700 9783031099694
Edizione	[1st ed. 2022.]
Descrizione fisica	1 online resource (637 pages)
Collana	Graduate Texts in Physics, , 1868-4521
Disciplina	294.33653 539.2
Soggetti	Environmental sciences Physics Environmental monitoring Geophysics Mass spectrometry Spectrum analysis Environmental chemistry Environmental Physics Environmental Monitoring Mass Spectrometry Spectroscopy Environmental Chemistry Radioactivitat Contaminació radioactiva Radiometria Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Introduction -- Radioactivity: history and phenomenology -- Radioactivity: decay law, definitions and units -- Natural and Artificial radioactivity -- Environmental Radioactivity -- Levels and behaviour of Environmental Radioactivity -- Radiological impact. Radiation

dosimetry -- Principles of radiation detection: interaction of radiation with matter -- Principles of radiation detection: counting and spectrometry -- Gas ionization detectors -- Scintillation detectors -- Semiconductor detectors -- Dosimeters, other detectors and specific designs -- Radiochemistry for environmental samples -- Principles of Low-Level Counting and Spectrometry -- Low-Level Counting and Spectrometry Techniques -- Principles of Mass Spectrometry -- Principles of Particle Accelerators -- Accelerator Mass Spectrometry (AMS) -- Neutron Activation Analysis (NAA).

Sommario/riassunto

This textbook presents the principles and methods for the measurement of radioactivity in the environment. In this regard, specific low-level radiation counting and spectrometry or mass spectrometry techniques are discussed, including sources, distribution, levels and dynamics of radioactivity in nature. The author gives an accurate description of the fundamental concepts and laws of radioactivity as well as the different types of detectors and mass spectrometers needed for detection. Special attention is paid to scintillators, semiconductor detectors, and gas ionization detectors. In order to explain radiochemistry, some concepts about chemical separations are introduced as well. The book is meant for graduate and advanced undergraduate students in physics, chemistry or engineering oriented to environmental sciences, and to other disciplines where monitoring of the environment and its management is of great interest.