1. Record Nr. UNISA996203158103316

Titolo	Single-molecule optical detection, imaging and spectroscopy / / edited by T. Basche [and three others]
Pubbl/distr/stampa	Weinheim, Germany : , : VCH, , 1997 ©1997
ISBN	1-281-84260-5 9786611842604 3-527-61471-0 3-527-61470-2
Descrizione fisica	1 online resource (266 p.)
Disciplina	543.0858
Soggetti	Molecular spectra Molecular spectroscopy
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Single-Molecule Optical Detection, Imaging and Spectroscopy; List of Contents; 1 Low-Temperature Studies in Solids; 1.1 Physical Principles and Methods of Single-Molecule Spectroscopy in Solids; 1.1.2 Physical principles and optimal conditions; 1.1.2.1 General considerations; 1.1.2.2 Spectral selection using zero-phonon lines and inhomogeneous broadening; 1.1.2.3 Peak absorption cross-section; 1.1.2.4 Other important requirements for single-molecule spectroscopy; 1.1.3 Methods; 1.1.3.1 Geometrical configurations for focusing and fluorescence collection; 1.1.3.2 Detection techniques Direct absorption (frequency-modulation) spectroscopy with secondary modulationFluorescence excitation spectroscopy; Single-molecule imaging in frequency and space; Measurement of spectral trajectories of single molecules; Time correlation of single-molecule emission signal; 1.1.3.3 Materials systems and structures; 1.1.4 Summary and outlook; References; 1.2 Excitation and Emission Spectroscopy and Quantum Optical Measurements; 1.2.1 Introduction; 1.2.2 Single molecule optical excitation lineshape; 1.2.2.1 Basic properties; 1.2.2.2 Temperature dependence of the optical linewidth and lineshift

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Reference cavity

Sommario/riassunto

Single Molecule Spectroscopy is one of the hottest topics in today's chemistry. It brings us close to the the most exciting vision generations of chemists have been dreaming of: To observe and examine single molecules!While most of chemistry deals with myriads of molecules, this books presents the latest developments for the detection and investigation of single entities. Written by internationally renowned authors, it is a thorough and comprehensive survey of current methods and their applications.