

1. Record Nr.	UNINA9910973020703321
Autore	Simserides Constantinos
Titolo	Low-dimensional carriers under in-plane magnetic field : novel phenomena // Constantinos Simserides, Anna Zora, and Georgios P. Triberis
Pubbl/distr/stampa	New York, : Nova Science Publishers, c2010
ISBN	1-61470-196-2
Edizione	[1st ed.]
Descrizione fisica	1 online resource (177 p.)
Collana	Condensed matter research and technology
Altri autori (Persone)	ZoraAnna TriberisGeorgios P
Disciplina	530.14/33
Soggetti	Low-dimensional semiconductors Quantum wells Magnetic fields
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 (p. [147]-159) and index.
Nota di contenuto	Intro -- LOW-DIMENSIONAL CARRIERS UNDER IN-PLANE MAGNETIC FIELD: NOVEL PHENOMENA -- LOW-DIMENSIONAL CARRIERS UNDER IN-PLANE MAGNETIC FIELD: NOVEL PHENOMENA -- Contents -- Introduction -- Chapter1QuantumMechanicsandThermodynamicsofQuasiTwo-DimensionalCarriersunderIn-PlaneMagneticField -- 1.1.Basics -- 1.2. ElectronKinetics -- 1.3.TheDensityofStates -- 1.4. ThermodynamicPropertiesandCarrierConcentration -- 1.5. TheCaseoftheSingleQuantumWellorDoubleHeterojunction -- Chapter2MagnetoresistanceOscillations -- 2.1.SingleHeterojunction -- 2.2.DoubleQuantumWell -- 2.3.WideSingleQuantumWell -- Chapter3Plasmons -- 3.1.PlasmonsinSingleQuantumWells -- 3.1.1. SubbandStructure -- 3.1.2.CollectiveExcitations -- 3.1.3. PlasmonDispersions -- 3.2.PlasmonsinDoubleQuantumWells -- 3.2.1. PlasmonsinDoubleQuantumWellsintheAbsenceofaMagneticField -- 3.2.2.PlasmonsinDoubleQuantumWellsunderIn-planeMagneticField -- Chapter4Photoluminescence -- 4.1. PhotoluminescenceofDoubleQuantumWellsunderIn-planeMagneticField -- 4.1.1.TheoreticalStudies -- SymmetricDoubleQuantumWells -- AsymmetricDoubleQuantumWells -- 4.1.2.ExperimentalStudies --

4.1.3. Indirect Excitons in Double Quantum Wells under High In-plane Magnetic Fields -- Chapter 5 Diluted Magnetic Semiconductor Quantum Wells: Thermodynamics and Spin-Subband Structure -- 5.1. Basics -- 5.2. Spin Splitting of Two Subsystems: Itinerant Carriers and Magnetic Ions -- 5.3. Low-Temperature Thermodynamics and Spin-Subband Structure of Narrow to Wide Diluted Magnetic Semiconductor Quantum Wells -- Chapter 6 Diluted Magnetic Semiconductor Quantum Wells: Influence of Temperature, Magnetic Field, Carrier Concentration and Exchange Interaction -- 6.1. Multi-Spin-Subband Populations, Spin-Polarization, and Relative Influence of the Zeeman and the Exchange Term -- 6.2. Wide Quantum Wells. 6.2.1. Multi-Spin-Subband Structure, Spin-Subband Populations, and Spin-Polarization Varying the Sheet Carrier Concentration and the Exchange Interaction -- 6.2.2. Temperature Dependence -- Chapter 7 Orbital Thermodynamic Properties -- 7.1. Low Temperatures -- 7.2. Augmenting Temperature -- Chapter 8 A Quasi-Zero-Dimensional Case: Quantum Dots under Magnetic Field of Variable Orientation -- 8.1. The Theoretical Framework -- 8.1.1. Single-Particle States -- 8.1.2. Coulomb Matrix Elements -- 8.1.3. Excitonic Problem -- 8.1.4. Near-Field Absorption Spectra - Spatial Resolution -- 8.2. Application to Single and Double Quantum Dots -- 8.2.1. Single-Particle States of Single Quantum Dots: Spatial Confinement vs. Magnetic Field Orientation and Magnitude -- 8.2.2. Single Quantum Dot in Ideal Configuration: The Influence of the Coulomb Interaction -- 8.2.3. Single Quantum Dots Subjected to Higher Magnetic Fields -- 8.2.4. Double Quantum Dot with a Soft Barrier -- 8.2.5. Ground State Exciton Binding -- References -- Index -- Blank Page.

Sommario/riassunto

The contents of this text cover quantum mechanics and thermodynamics of quasi two-dimensional carriers under in-plane magnetic field, magnetoresistance oscillations, plasmons, diluted magnetic semiconductor quantum well, and much more.
