1. Record Nr. UNINA9910876571603321 Perspectives in quantum Hall effects: novel quantum liquids in low-**Titolo** dimensional semiconductor structures // edited by Sankar Das Sarma. Aron Pinczuk New York, : Wiley, c1997 Pubbl/distr/stampa **ISBN** 1-281-76433-7 9786611764333 3-527-61725-6 3-527-61726-4 Descrizione fisica 1 online resource (446 p.) Altri autori (Persone) SarmaSankar Das <1953-> PinczukAron Disciplina 537.6226 539.721 Soggetti Quantum Hall effect Hall effect devices Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references and index. Nota di contenuto PERSPECTIVES IN QUANTUM HALL EFFECTS: CONTENTS: Contributors: Preface; 1 Localization, Metal-Insulator Transitions, and Quantum Hall Effect: 1.1. Introduction: 1.1.1. Background: 1.1.2. Overview: 1.1.3. Prospectus; 1.2. Two-Dimensional Localization: Concepts; 1.2.1. Two-Dimensional Scaling Localization; 1.2.2. Strong-Field Situation; 1.2.3. Quantum Hall Effect and Extended States: 1.2.4. Scaling Theory for the Plateau Transition; 1.2.5. Disorder-Tuned Field-Induced Metal-Insulator Transition; 1.3. Strong-Field Localization: Phenomenology; 1.3.1. Plateau Transitions: Integer Effect 1.3.2. Plateau Transitions: Fractional Effect1.3.3. Spin Effects; 1.3.4. Frequency-Domain Experiments; 1.3.5. Magnetic-Field-Induced Metal-Insulator Transitions; 1.4. Related Topics; 1.4.1. Universality; 1.4.2. Random Flux Localization; References; 2 Experimental Studies of Multicomponent Quantum Hall Systems; 2.1. Introduction; 2.2. Spin and the FQHE; 2.2.1. Tilted Field Technique; 2.2.2. Phase Transition at

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Sommario/riassunto

The discovery of the quantized and fractional Quantum Hall Effect phenomena is among the most important physics findings in the latter half of this century. The precise quantization of the electrical resistance involved in the quantized Hall effect phenomena has led to the new definition of the resistance standard and has metrologically affected all of science and technology. This resource consists of contributions from the top researchers in the field who present recent experimental and theoretical developments. Each chapter is self-contained and includes its own set of references guiding rea