Record Nr. UNINA9910810954803321 Autore Oeckl Robert Titolo Discrete gauge theory: from lattices to TQFT // Robert Oeckl London, : Imperial College Press, 2005 Pubbl/distr/stampa **ISBN** 1-281-86700-4 9786611867003 1-86094-737-9 Edizione [1st ed.] Descrizione fisica 1 online resource (215 p.) Disciplina 530.1435 Soggetti Gauge fields (Physics) Quantum groups Quantum field theory Quantum gravity Hopf algebras 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 Preface: Contents: 1. Quantization of Discretized Gauge Theories: 2. Topology: Decomposition of Manifolds; 3. Categories and Diagrams; 4. Representation Theory: Groups & Hopf Algebras: 5. Cellular Gauge Theory; 6. Topological Quantum Field Theory; 7. Related Constructions; 8. Applications to Lattice Models and Quantum Gravity; References: Index Sommario/riassunto This book provides an introduction to topological quantum field theory as well as discrete gauge theory with quantum groups. In contrast to much of the existing literature, the present approach is at the same time intuitive and mathematically rigorous, making extensive use of suitable diagrammatic methods. It provides a highly unified description of lattice gauge theory, topological quantum field theory and models of quantum (super)gravity. The reader is thus in a unique position to

understand the relations between these subjects as well as the

underlying groundwork.