1. Record Nr. UNINA9910410002103321 Autore Rahimi-Iman Arash **Titolo** Polariton Physics: From Dynamic Bose-Einstein Condensates in StronglyCoupled Light–Matter Systems to Polariton Lasers / / by Arash Rahimi-Iman Cham:,: Springer International Publishing:,: Imprint: Springer,, Pubbl/distr/stampa 2020 3-030-39333-X ISBN Edizione [1st ed. 2020.] 1 online resource (XX, 275 p. 91 illus., 86 illus. in color.) Descrizione fisica Collana Springer Series in Optical Sciences, , 0342-4111; ; 229 Disciplina 621.36 530.41 Soggetti Lasers **Photonics** Quantum optics Electronic circuits **Optics** Electrodynamics Superconductivity Superconductors Optics, Lasers, Photonics, Optical Devices **Quantum Optics** Electronic Circuits and Devices Classical Electrodynamics Strongly Correlated Systems, Superconductivity Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Introduction -- Review of Polariton BEC: From BEC to Polariton Nota di contenuto Condensates -- Fundamentals of Polariton Physics -- Structure and Technology -- Fundamental Spectroscopic Techniques -- Optically Excited Polariton Condensates -- Polaritons in External Fields --Polariton Traps -- Polariton LEDs -- Polariton Laserdiodes.

This book offers an overview of polariton Bose–Einstein condensation and the emerging field of polaritonics, providing insights into the

Sommario/riassunto

necessary theoretical basics, technological aspects and experimental studies in this fascinating field of science. Following a summary of theoretical considerations, it guides readers through the rich physics of polariton systems, shedding light on the concept of the polariton laser, polariton microcavities, and the technical realization of optoelectronic devices with polaritonic emissions, before discussing the role of external fields used for the manipulation and control of excitonpolaritons. A glossary provides simplified summaries of the most frequently discussed topics, allowing readers to quickly familiarize themselves with the content. The book pursues an uncomplicated and intuitive approach to the topics covered, while also providing a brief outlook on current and future work. Its straightforward content will make it accessible to a broad readership, ranging from research fellows, lecturers and students to interested science and engineering professionals in the interdisciplinary domains of nanotechnology, photonics, materials sciences and quantum physics.