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Sommario/riassunto	This book highlights a comprehensive introduction to high-throughput imaging, with the focus on the principles and methods. High-throughput imaging has become a research trend in the field of optics. It combines fast imaging, super-resolution imaging and large field of view imaging, improving the performance of the imaging system in many aspects. The development of a fast and high-throughput imaging

system requires integration of optics, mathematics, programming, and other related science and technology. They bridge the theory and the system and realize the software-hardware integration, finally achieving high-performance imaging. An effective evaluation criterion of high-throughput imaging is the spatio-temporal bandwidth product, which provides guidance for research. The imaging technology with better comprehensive performance is the key target of research. Nowadays, new super-resolution imaging technologies and high-throughput imaging technologies have been emerging one after another, together with a number of new technical indicators. However, the integration and cascade of various technologies is still a very difficult challenge, and different technologies are difficult to be used in combination because of differences in physical space and technical means. Creating an imaging system with fast and high-throughput imaging capability is an urgent research task, which has important economic and social benefits for practical applications such as observing the dynamic (transient) process of large-size targets and on-line detection. High-throughput imaging is one of the major research goals of global research teams in optical imaging. This book summarizes latest research advances and introduces a variety of imaging methods targeting key problems, bringing together new theories and technologies in the aspects of high resolution, large field of view and fast imaging. The book provides a handy reference and systematic handbook for graduate students, researchers, and technicians engaged in the study, research and work in optical imaging.