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Sommario/riassunto	This book highlights the basic theories and technical principles of the synthetic aperture radar (SAR), aiming to bridge theories and applications for readers. Supported by the practical experience of the author's dedicated research, this book also constructs the SAR theoretical system from multiple perspectives. The synthetic aperture radar (SAR) is a weather-independent microwave remote sensing device that involves a number of multidisciplinary fields such as signal processing and image information processing. Written by experts in remote sensing and signal processing, the book explains the signal

echo modeling, imaging principles and algorithms, image quality control methods, and image applications. Readers are provided with concise descriptions of commonly used imaging algorithms for SAR in multiple regimes, modes, and applications, including the Range Doppler Algorithm (RDA) and the Frequency Scaling Algorithm (FSA). Continuous wave/pulse regime SAR technology, inverse synthetic aperture radar (ISAR) technology, digital beam forming (DBF), interferometry, and moving target detection methods are discussed in detail. The book is a must-read and comprehensive reference for researchers and engineers engaged in the R&D of the SAR and for graduate students interested in the field.