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Autore	Wang Wen-Qin
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Nota di contenuto	1. Introduction -- 2. Background material -- 3. Azimuth multi-antenna SAR -- 4. Elevation-plane multi-antenna SAR -- 5. MIMO SAR waveform diversity and design -- 6. MIMO SAR in high-resolution wide-swath imaging -- 7. MIMO SAR in moving target indication -- 8. Distributed multi-antenna SAR time and phase synchronization -- 9. Distributed multi-antenna SAR antenna synchronization -- 10. Azimuth-variant multi-antenna SAR image formulation processing -- 11. Multi-antenna SAR three-dimensional imaging.
Sommario/riassunto	Preface Synthetic aperture radar (SAR) is a well known remote sensing technique, but conventional single-antenna SAR is inherently limited by the minimum antenna area contraint. This book deals with multi-antenna SAR in microwave remote sensing applications, such as high-resolution imaging, wide-swath remote sensing and ground moving target indication (GMTI). Particular attention is paid to the signal processing aspects of various multi-antenna SAR from a top-level system description. Multi-antenna SAR allows for simultaneous transmission and reception by multiple antennas, compared to conventional SARs with only a single antenna. This provides a potential to gather additional information and to benefit from this information to overcome the restrictions of conventional single-antenna SARs.

Multiple antennas can be placed either in a monostatic platform or distributed platforms. The simplest multi-antenna SAR is bistatic SAR which can be extended to multistatic SAR by having more than two transmitter or receiver. Many different terms for multistatic SAR are used in literature. These include multistatic SAR, multi-antenna SAR, netted SAR, multisite SAR and distributed SAR. In this book, we use the term multi-antenna SAR as a catch-all to embrace all possible forms. This book is a research monograph. Its backbone is a series of innovative microwave remote sensing approaches that we have developed in recent years. These approaches address different specific problems of future microwave remote sensing, yet the topics discussed are all centered around multi-antenna SAR imaging. By stitching these approaches together in a book, we are able to tell a detailed story on various aspects of multi-antenna SAR imaging within a consistent framework--