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Nota di contenuto	Inverse Synthetic Aperture Radar Imaging with MATLAB Algorithms; Contents; Preface; Acknowledgments; CHAPTER ONE: Basics of Fourier Analysis; 1.1 FORWARD AND INVERSE FOURIER TRANSFORM; 1.1.1 Brief History of FT; 1.1.2 Forward FT Operation; 1.1.3 IFT; 1.2 FT RULES AND PAIRS; 1.2.1 Linearity; 1.2.2 Time Shifting; 1.2.3 Frequency Shifting; 1.2.4 Scaling; 1.2.5 Duality; 1.2.6 Time Reversal; 1.2.7 Conjugation; 1.2.8 Multiplication; 1.2.9 Convolution; 1.2.10 Modulation; 1.2.11 Derivation and Integration; 1.2.12 Parseval's Relationship; 1.3 TIME- FREQUENCY REPRESENTATION OF A SIGNAL 1.3.1 Signal in the Time Domain 1.3.2 Signal in the Frequency Domain; 1.3.3 Signal in the (JTF) Plane; 1.4 CONVOLUTION AND MULTIPLICATION USING FT; 1.5 FILTERING/WINDOWING; 1.6 DATA SAMPLING; 1.7 DFT AND FFT; 1.7.1 DFT; 1.7.2 FFT; 1.7.3 Bandwidth and Resolutions; 1.8 ALIASING; 1.9 IMPORTANCE OF FT IN RADAR IMAGING; 1.10 EFFECT OF ALIASING IN RADAR IMAGING; 1.11 MATLAB

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Sommario/riassunto

This book provides a full representation of Inverse Synthetic Aperture
 Radar (ISAR) imagery, which is a popular and important radar signal
 processing tool. The book covers all possible aspects of ISAR imaging.
 The book offers a fair amount of signal processing techniques and
 radar basics before introducing the inverse problem of ISAR and the
 forward problem of Synthetic Aperture Radar (SAR). Important concepts
 of SAR such as resolution, pulse compression and image formation are
 given together with associated MATLAB codes. After providing the
 fundamentals for ISAR imaging, the book gives the