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waveform and modeling of deterministic components of BSAR signal; 3.4. Phase code modulated pulse waveforms; 3.4.1. Barker phase code 3.4.2. Complementary code synthesis 3.4.3. BSAR-transmitted complementary phase code modulated waveforms; 3.4.4. GPS C/A phase code; 3.4.5. GPS P phase code; 3.4.6. DVB-T waveform; CHAPTER 4. BSAR IMAGE RECONSTRUCTION ALGORITHMS; 4.1. Image reconstruction from a short pulse BSAR signal; 4.2. LFM BSAR image reconstruction algorithm; 4.3. PCM BSAR image reconstruction algorithm; 4.4. Autofocus algorithm with entropy minimization; 4.5. Experiment with the multistatic SAR LFM image reconstruction algorithm; CHAPTER 5. ANALYTICAL GEOMETRICAL DETERMINATION OF BSAR RESOLUTION 5.1. Generalized BSAR range and Doppler resolution 5.1.1. BSAR range resolution; 5.1.2. BSAR Doppler resolution; 5.2. Along-track range resolution; 5.3. Range resolution along a target-receiver line of sight; CHAPTER 6. BSAR EXPERIMENTAL RESULTS; 6.1. Example 1: BFISAR with short-pulse waveform; 6.1.1. BFISAR parameters estimation; 6.1.2. BFISAR signal formation algorithm; 6.2. Example 2: BFISAR with pulse LFM waveform; 6.2.1. BFISAR geometry and isorange ellipse parameter estimation; 6.2.2. BFISAR LFM signal formation algorithm; 6.2.3. Image reconstruction algorithm and experimental results 6.3. Example 3: asymmetric geometry of BFISAR with pulse LFM waveform 6.3.1. BFISAR LFM signal formation algorithm; 6.3.2. BFISAR image reconstruction algorithm and experimental results; 6.4. Example 4: BGISAR with Barker PCM waveform; 6.4.1. BGISAR Barker PCM signal formation algorithm; 6.4.2. BGISAR image reconstruction algorithm and experimental results; 6.5. Example 5: BGISAR with GPS C/A PCM waveform; 6.5.1. BGISAR GPS C/A PCM signal formation algorithm; 6.5.2. BGISAR image reconstruction algorithm and experimental results; 6.6. Example 6: BGISAR with GPS P PCM waveform 6.6.1. BGISAR GPS P PCM signal formation algorithm

Sommario/riassunto

Bistatic radar consists of a radar system which comprises a transmitter and receiver which are separated by a distance comparable to the expected target distance. This book provides a general theoretical description of such bistatic technology in the context of synthetic aperture, inverse synthetic aperture and forward scattering radars from the point of view of analytical geometrical and signal formation as well as processing theory. Signal formation and image reconstruction algorithms are developed with the application of high informative linear frequency and phase code modulating technique
