Active lens: a mass, volume, and energy efficient antenna for space-based radar p. 1
An ultra-low power integrated T/R module for space-based radar technology p. 6
A digital beamforming processor for the joint DoD/NASA space-based radar mission p. 9
Onboard FPGA-based SAR processing for future spaceborne systems p. 15
Antenna auto-calibration and metrology approach for the AFRL/IPL space-based radar p. 21
The earth rotation effect on a LEO L-band GMTI SBR and mitigation strategies p. 27
On-board processor for direct distribution of change detection data products p. 33
New algorithms for widefield SAR image formation p. 38
Modified polar format algorithm for processing spaceborne SAR data p. 44
A novel parametric SAR autofocus method p. 50
Enhancement of backprojection SAR imagery using digital spotlighting preprocessing p. 53

Recovery of badly motion-degraded SAR imagery by the use of frequency-randomized waveforms p. 59
Ubiquitous radar: an implementation concept p. 65
MIMO radar: an idea whose time has come p. 71
Phased array radar resource management: a comparison of scheduling algorithms p. 79
Spatio-temporal delta-sigma modulation for shared wideband transmit arrays p. 85
Peculiar radar cross-section properties of double-negative and single-negative metamaterials p. 91
Imaging moving objects in 3D from single aperture synthetic aperture radar p. 94
Performance assessment of along-track interferometry for detecting ground moving targets p. 99

Advanced SAR GMTI techniques p. 105
Use of genetic algorithms for ISAR image autofocusing p. 201
Application of reduced state estimation to multisensor fusion with out-of-sequence measurements p. 111
CoreTracking: an efficient approach to clustering moving targets and tracking clusters p. 117
A constrained extended Kalman filter for target tracking p. 123
Analysis of advanced data association techniques for ASDE radar p. 128
Low-cost radar surveillance of inland waterways for homeland security applications p. 134

A spectrally clean transmitting system for solid-state phased-array radars p. 140
Synthesizing task periods for dwells in multi-function phased array radars p. 145
ADC spurious signal mitigation in radar by modifying the LO p. 151
Delta-sigma waveform generation for digital radars p. 154
From a high-resolution LFM-CW shipborne radar to an airport surface detection equipment p. 157
Waveform generation and signal processing for a multifunction radar system p. 161
An open architecture for an embedded signal processing subsystem p. 166
Doppler frequency extraction of foliage penetration radar based on the Hilbert-Huang transform technology p. 170
On-line sensor calibration for airport data fusion p. 175
Synthetic-aperture assessment of a dispersive surface p. 181
ISAR minimum-entropy phase adjustment p. 197
Developments in repeat pass interferometric radar for earth and planetary sciences p. 207
An inverse polar format algorithm for turntable spotlight ISAR imaging systems using stepped frequency waveforms p. 212
Effect of the common process noise on performance of two-sensor fused-track p. 225
Adaptive beam-domain processing for space-based radars p. 230
Classification of training data with reduced-rank generalized inner product p. 236
Adaptive doppler filtering applied to modern air traffic control radars p. 242
A robust loaded reiterative median cascaded canceller p. 249
Orthogonal train of modified Costas pulses p. 255
Combinatoric collaboration on Costas arrays and radar applications p. 260
Simultaneous use of multiple pseudo random noise codes in multistatic CW radar p. 266
Adaptive pulse compression p. 271
Multi-resolution signal processing techniques for airborne radar p. 277
Physics-based airborne GMTI radar signal processing p. 283
STAP with knowledge-aided data pre-whitening p. 289
Improving knowledge-aided STAP performance using past CPI data p. 295
A knowledge-aided GMTI detection architecture p. 301
Advanced geostationary radar for hurricane monitoring and studies p. 307
Crossbeam wind measurements with phased array doppler weather radar : theory p. 312
An L-band SAR for repeat pass deformation measurements on a UAV platform p. 317
SAR image formation algorithm with multipath reflectivity estimation p. 323
Belief fusion, pignistic probabilities, and information content in fusing tracking attributes p. 218
Doppler parameter estimation of airborne radar based on a novel clutter model p. 329
CFAR behavior of adaptive detectors : an experimental analysis p. 333
Techniques for higher order analysis of radar clutter and their application to L-band live data p. 339
Non-coherent detection of slow-moving targets in high-resolution sea clutter p. 345
A CFAR thresholding approach based on test cell statistics p. 349
Adaptive thresholding of non-homogeneity detection for STAP applications p. 355
Improved STAP performance using knowledge-aided secondary data selection p. 361
Space-time adaptive processing (STAP) with limited sample support p. 366
Efficient robust AMF using the enhanced FRACTA algorithm : results from KASSPER I & II p. 372
Terrain height estimation using GMTI radar p. 378
Novel signal processing architectures for knowledge-based STAP algorithms p. 382
STAP training through knowledge-aided predictive modeling p. 388
The knowledge-aided sensor signal processing and expert reasoning (KASSPER) real-time signal processing architecture p. 394
New implementation of the Billingsley clutter model for GMTI data cube generation p. 398
Application of the Cramer-Rao lower bound for bearing estimation to STAP performance studies p. 402

Efficient tapering methods for STAP p. 408

Analysis of terrain scattered interference mitigation p. 414

An alternating transmit approach for STAP with short antenna arrays p. 420

A method of sidelobe cancellation using wavelet packets p. 426

Applications of space-time techniques in radar systems p. 431

Estimating the number of signals in presence of colored noise p. 432

Efficient exhaustive search for optimal-peak-sidelobe binary codes p. 438

Enhanced maneuvering targets detection via polynomial phase modeling in over-the-horizon radars p. 444

Detection and tracking of ballistic target p. 450

A Kalman filter-based radar track data fusion algorithm applied to a select ICBM case p. 457

A multiple-hypothesis testing approach to radar detection and pre-classification p. 463

STAP for RADAR : what works, what doesn't, and what's in store p. 469

Canonical framework for describing suboptimun radar space-time adaptive processing (STAP) techniques p. 474

Comparison of the radar clutter cancellation performance of post- and pre-doppler STAP for ground moving target identification from an experimental airborne surveillance radar p. 480

Cancellation of clutter and EM interference with STAP algorithms. Application to live data acquired with a ground-based phased array radar p. 486

Application of diffraction technology to UWB SAR research p. 492

UWB radar improvements by using a several antennas system p. 498

Optimization of a monobit FFT radar interceiver using a genetic algorithm p. 503

Physical scale modeling of VHF/UHF SAR collection geometries p. 508

Space-time adaptive processing for forward looking arrays p. 514

Design of an ultra high-speed all-optical analog-to-digital converter p. 520

MATLAB-based ERS SAR data acquistion and processing software for classroom use p. 524

GLRT-detection performance in subsurface sounding p. 529

S-band integrated digital broadband receiver p. 535

STAP detection using space-time autoregressive filtering p. 541

On a-[beta] target tracking : the probability of target escape p. 546

Linear array design using Bayesian parameter estimation p. 551

Drift inversion estimation of multipath ghosts in SAR image reconstruction p. 556

Maximum-likelihood parameter estimation of multiple chirp signals by a new Markov chain Monte Carlo approach p. 559

Spaceborne spotlight SAR processing using the frequency-scaling algorithm p. 563

Adaptive conformal array radar p. 568

Effect of system geometry of multi-sensor on accuracy of target position estimation p. 573

Range sidelobes suppression for wideband randomly discontinuous spectra OTH-HF radar signal p. 577

Wideband bow-tie slot antenna with tuning stubs p. 582
A novel two frequency MTI radar p. 589
Steering vector mismatch: analysis and reduction p. 592
An analysis of the effects of windowing on selected STAP algorithms p. 598
Estimation of vector miss distance based on source localization p. 604
3-dimensional STAP performance analysis using the cross-spectral metric p. 610
Optimal invariant test in coherent radar detection with unknown parameters p. 616
A method using influence function for evaluating robustness of CFAR detectors p. 620

Table of Contents provided by Blackwell's Book Services and R.R. Bowker. Used with permission.