

AAW

anti-air warfare

ABF

adaptive beamforming

ACE

adaptive cosine estimator

ADC

analog-to-digital converter

ADS

advanced deployable system

AEW

airborne early warning

AI

airborne intercept

AMF

adaptive matched filter

AMFP

adaptive matched field processing

AMTI

airborne moving target indication

AOA

angle of arrival

AR

auto-regressive

ARMA

auto-regressive moving average

ASAP

adaptive sensor array processing

ASB

adaptive sidelobe blanker

ASW

antisubmarine warfare

ATR

automatic target recognition

AWACS

airborne warning and control system

BTR

bearing-time records

CBF

conventional beamformer

CDMA

code division multiple access

CFAR

constant false alarm rate

CIF

clutter improvement factor

CMFP

conventional matched field
processing

CNR

clutter-to-noise ratio

CONOPS

concept of operations

CPI

coherent processing interval

CRB

Cramér-Rao bound

CRLB

Cramér-Rao lower bound

CW

continuous wave

DARPA

Defense Advanced Research
Projects Agency

DBF

digital beamforming

DDC

digital down conversion

DFT

discrete Fourier transform

DMI

direct matrix inversion

DMR

dominant mode rejection

DOA

direction of arrival

DOF

degrees of freedom

DPCA

displaced phase-center antenna processing; a clutter cancellation
technique used for GMTI & AMTI

DS-CDMA

direct sequence code division multiple access

ECM

electronic countermeasures

ECCM

electronic counter-countermeasures

EM

expectation maximization

ESPRIT

estimation of signal parameter via rotational invariance techniques

FFP

full field processing

FFT

fast Fourier transform

FIR

finite impulse response

FJB

frequency jump burst

FOPEN

foliage penetration

GLRT

generalized likelihood ratio test

GMTI

ground moving-target indication

GPS

global positioning satellite

GSC

generalized sidelobe canceller

GUI

graphical user interface

HF

high-frequency radio band

HLA

horizontal line array

ISLR

integrated sidelobe ratio; ratio of sidelobe to mainlobe noise of a filter

JSTARS

joint surveillance target attack radar system-; a long-range, air-to-ground surveillance system aboard an E-8C aircraft, operating in SAR and GMTI mode

LCMV

linearly constrained minimum variance

LFM

linear frequency modulated

LMS

least mean square

matched filtering

the optimal receiver for a noise-only environment; maximizes SNR

MAP

maximum a posteriori

MDV

minimum detectable velocity

MFP

matched field processing

MIE

method of interval errors

MIMO

multiple input, multiple output

ML

maximum likelihood

MLE

maximum-likelihood estimation

MMSE

minimum mean squared error

MNR

multiplicative noise ratio

MPP

massively parallel processing

MSE

mean squared error

MTI

moving-target indicator

MUSIC

multiple signal classification

MVDR

minimum variance distortionless response

MVM

minimum variance method

NCI

noncoherent integration

NSE

noise spectrum equalizer

ONR

Office of Naval Research

PCI

principal components inverse

PD

probability of detection

PFA

probability of false alarm

PGA

phase-gradient autofocus

PRF

pulse-repetition frequency

PRI

pulse-repetition interval

PSD

power spectral density

RLS

recursive least squares

RFI

radio frequency interference

SAR

synthetic aperture radar; a large aperture array is synthesized moving a smaller aperture array. See also SAS

SAS

synthetic aperture sonar. See also SAR

SBR

space-based radar

SCM

sample covariance matrix

SINR

signal-to-interference-plus-noise ratio

SIR

signal-to-interference ratio

SMI

sample matrix inversion

SNR

signal-to-noise ratio

SSP

sound speed profile

STAP

space-time adaptive processing

SVD

singular-value decomposition

SVP

sound velocity profile

TSI

terrain scattered interference

TSJ

terrain scattered jamming

UAV

unmanned aerial vehicle

UESA

UHF electronically scanned array

UHF

ultra-high frequency

ULA

uniform linear array

UWB

ultra-wideband

VLF

very-low-frequency acoustic band

WLS

weighted least squares

WWB

Weiss-Weinstein bound