

## GLOSSARY

AASC: Absolute Abundance Sum-to-one Constraint, Chapters 10  
AIC: An Information Criterion, Chapter 17  
AMPC: Automatic Mixed Pixel Classification, Chapters 13-16  
ANC: Abundance Nonnegativity Constraint, Chapters 3, 10  
 $a\%$ MPCV:  $a\%$  Mixed-to-Pure Conversion (Converter), Chapters 9, 11, 12, 15  
ASC: Abundance Sum-to-one Constraint, Chapters 3, 10  
ASD: Automatic Subpixel Detection, Chapters 5-6  
ATDCA: Automatic Target Detection and Classification Algorithm, Chapter 13  
AVIRIS: Airborne Visible/Infrared Imaging Spectrometer, Chapter 1  
BRLCMV: Background Removed Linearly Constrained Minimum Variance, Chapter 11  
CBD: City Block Distance, Chapter 2  
CCA: Convex Cone Analysis, Chapter 18  
CEM: Constrained Energy Minimization, Chapters 4, 7, 11  
CMD: Covariance-based Mahalanobis Distance, Chapter 14  
CMFD: Covariance-based Matched Filter Distance, Chapter 14  
CRXD: Causal RXD, Chapter 6  
DTDCA: Desired Target Detection and Classification Algorithm, Chapter 13  
EA: Evolutionary Algorithm, Chapter 16  
ED: Euclidean Distance, Chapters 2, 9  
FCLS: Fully Constrained Least-Squares method, Chapter 10  
FIR: Finite Impulse Response  
FNNLS: Fast NNLS method, Chapter 3  
FNNLSb: A second version of FNNLS, Chapter 3  
FV: Filter Vectors Approach developed by Bowels et al., Chapters 11, 12  
 $\gamma$ : Confidence coefficient, Chapters 15-16  
 $\gamma$ MPCV:  $\gamma$ Mixed-to-Pure Conversion (Converter), Chapters 15-16  
GCEM: Generalized Constrained Energy Minimization, Section 18.7.1  
GML: Gaussian maximum likelihood, Chapter 3, 8  
GOSP: Generalized Orthogonal Subspace Projection, Section 18.7.1  
GSD: Ground Sampling Distance  
HFC: Harsanyi-Farrand-Chang, Chapter 17  
HMM: Hidden Markov Model, Chapter 2  
HMMID: Hidden Markov Model-Based Information Divergence, Chapter 2  
HYDICE: HYperspectral Digital Imagery Collection Experiment, Chapter 1  
IAD: IntrA-Distance, Chapter 12  
ICA: Independent Component Analysis, Chapter 15  
ID: Intrinsic Dimensionality, Chapter 17  
IED: IntEr-Distance, Chapter 12  
JMD: Jeffries-Matusita Distance, Chapter 2  
LBG: Linde-Buzo-Gray  
LCDA: Linearly Constrained Discriminant Analysis, Chapter 12  
LCMV: Linearly Constrained Minimum Variance, Chapters 4, 11  
LCVF: Lunar Crater Volcanic Field, Chapter 1  
LDA: Linear Discriminant Analysis, Chapter 9  
LPD: Low Probability Detection/Detector, Chapter 6  
LPTD: Low Probability Target Detector, Chapter 6  
LSE: Least-Squares Error, Chapters 5, 10

LSMA: Linear Spectral Mixture Analysis, Chapters 3, 8  
LSRMA: Linear Spectral Random Mixture Analysis, Chapter 15  
MD: Mahalanobis Distance, Chapter 2  
MFCLS: Modified Fully Constrained Least-Squares method, Chapter 10  
MLC: Maximum Likelihood Classifier, Chapters 3, 8  
MNF: Maximum Noise Fraction, Chapter 18  
MPC: Mixed Pixel Classification, Chapters 8-16  
MPCV: Mixed-to-Pure pixel ConVerter (Conversion), Chapter 9  
MRI: Magnetic Resonance Imaging, Section 18.8  
MRXD: Modified RX Detector, Chapter 6  
MTCEM: Multiple-Target Constrained Energy Minimization, Chapter 11  
MVDR: Minimum Variance Distortionless Response, Chapter 4  
NAPC: Noise Adjusted Principal Component, Chapter 18  
NCLS: Nonnegativity Constrained Least-Squares method, Chapters 3, 5, 10  
NNLS: NonNegative Least-Squares method, Chapter 3  
NNNLS: Normalized NonNegative Least-Squares method, Chapter 10  
NNR: Nearest Neighbor Rule, Chapter 5  
NRXD: Normalized RX Detector, Chapter 6  
NSCLS: Normalized Sum-to-one Constrained Least-Squares, Chapter 10  
NSP: Noise Subspace Projection, Chapter 17  
NWHFC: Noise-Whitened Harsanyi-Farrand-Chang, Chapter 17  
OBSP: Oblique Subspace Projection, Chapter 8  
OPCI: Orthogonal Projection Correlation Index, Chapter 13  
OPD: Orthogonal Projection Distance, Chapter 2  
OSP: Orthogonal Subspace Projection, Chapter 3  
PCA: Principal Components Analysis, Chapter 6  
PCLS: Partially Constrained Least-Squares method(s), Chapter 3  
PP: Projection Pursuit  
PPC: Pure Pixel Classification, Chapter 9  
PPEA: Projection Pursuit-based Evolutionary Algorithm, Chapter 16  
RMD: Correlation-based Mahalanobis Distance, Chapter 14  
RMFD: Correlation-based Matched Filter Distance, Chapter 14  
ROC: Receiver Operating Characteristics  
RSDE: Relative Spectral Discriminatory Entropy, Chapter 2  
RSDPB: Relative Spectral Discriminatory ProBability, Chapter 2  
RSDPW: Relative Spectral Discriminatory PoWer, Chapter 2  
RXD: RX Detector, Chapters 6, 14  
SAM: Spectral Angle Mapper, Chapter 2  
SCEM: Sum Constrained Energy Minimization, Chapter 11  
SCLS: Sum-to-one Constrained Least-Squares, Chapter 3  
SD: Subpixel Detection, Chapters 3-7  
SID: Spectral Information Divergence, Chapter 2  
SIM: Spectral Information Measure, Chapter 2  
SSP: Signature Subspace Projection, Chapter 8  
TACMPC: Target Abundance-Constrained Mixed Pixel Classification, Chapter 10  
TCIM: Target-Constrained Interference-Minimized, Chapter 11  
TCIMF: Target-Constrained Interference-Minimized Filter, Chapters 4, 11  
TD: Tchebyshev Distance, Chapter 2  
TSCMPC: Target signature-Constrained Mixed Pixel Classification, Chapters 11, 12  
TSP: Target Subspace Projection, Chapter 8  
UCEM: Unsupervised Constrained Energy Minimization, Chapter 11  
UFCLS: Unsupervised Fully Constrained Least-Squares, Chapter 10  
UNCLS: Unsupervised Nonnegativity Constrained Least-Squares, Chapter 5  
UOSP: Unsupervised Orthogonal Subspace Projection, Chapter 13  
UTD: Uniform Target Detector, Chapters 6,14

UTGP: Unsupervised Target Generation Process, Chapter 13

UVQ: Unsupervised Vector Quantization, Chapter 5

VD: Virtual Dimensionality, Chapter 17

WTA: Winner-Take-All, Chapter 9

WTACEM: Winner-Take-All Constrained Energy Minimization, Chapter 11

WTAMPCV: Winner-Take-All Mixed-to-Pure Conversion (Converter), Chapter 9