

IEEE JOURNAL OF SELECTED TOPICS IN APPLIED EARTH OBSERVATIONS AND REMOTE SENSING

A PUBLICATION OF THE IEEE GEOSCIENCE AND REMOTE SENSING SOCIETY
AND THE IEEE COMMITTEE ON EARTH OBSERVATIONS



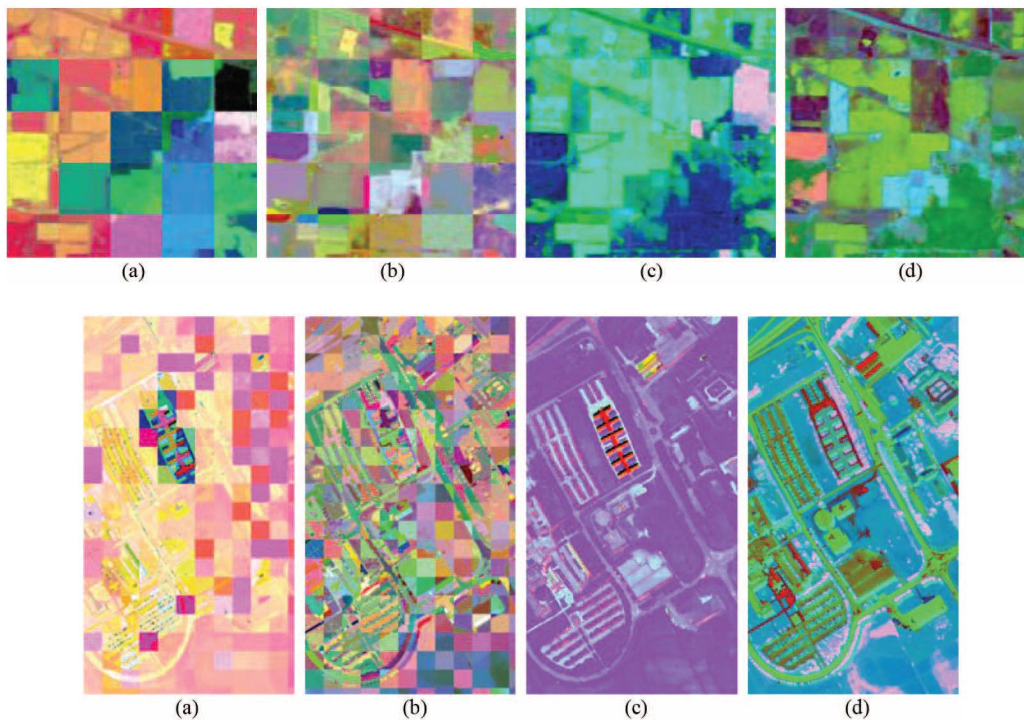
FEBRUARY 2016

VOLUME 9

NUMBER 2

IJSTHZ

(ISSN 1939-1404)



Demonstrating the interest of a local manifold learning. Figures (a) and (b) feature the result of a Dimension Reduction without alignment. Figures (c) and (d) feature the same result with alignment. For more information, please see “Spatial Regularized Local Manifold Learning for Classification of Hyperspectral Images,” by Li *et al.*, which begins on p. 609

IEEE JOURNAL OF SELECTED TOPICS IN APPLIED EARTH OBSERVATIONS AND REMOTE SENSING

A PUBLICATION OF THE IEEE GEOSCIENCE AND REMOTE SENSING SOCIETY
AND THE IEEE COMMITTEE ON EARTH OBSERVATIONS



FEBRUARY 2016

VOLUME 9

NUMBER 2

IJSTHZ

(ISSN 1939-1404)

REGULAR PAPERS

Domain Adaptation With Preservation of Manifold Geometry for Hyperspectral Image Classification	<i>H. L. Yang and M. M. Crawford</i>	543
Hyperspectral Image Classification Via Shape-Adaptive Joint Sparse Representation	<i>W. Fu, S. Li, L. Fang, X. Kang, and J. A. Benediktsson</i>	556
Decorrelation–Separability–Based Affinity Propagation for Semisupervised Clustering of Hyperspectral Images	<i>C. Yang, L. Bruzzone, H. Zhao, Y. Liang, and R. Guan</i>	568
Fusion of Spectral and Spatial Information for Classification of Hyperspectral Remote-Sensed Imagery by Local Graph	<i>W. Liao, M. Dalla Mura, J. Chanussot, and A. Pižurica</i>	583
Semisupervised Hyperspectral Image Classification via Discriminant Analysis and Robust Regression	<i>G. Cheng, F. Zhu, S. Xiang, Y. Wang, and C. Pan</i>	595
Spatial Regularized Local Manifold Learning for Classification of Hyperspectral Images	<i>L. Ma, X. Zhang, X. Yu, and D. Luo</i>	609
A Discontinuity Preserving Relaxation Scheme for Spectral–Spatial Hyperspectral Image Classification	<i>J. Li, M. Khodadadzadeh, A. Plaza, X. Jia, and J. M. Bioucas-Dias</i>	625
An Active Learning Framework for Hyperspectral Image Classification Using Hierarchical Segmentation	<i>Z. Zhang, E. Pasolli, M. M. Crawford, and J. C. Tilton</i>	640
Adaptive Morphological Filtering Method for Structural Fusion Restoration of Hyperspectral Images	<i>Y. Teng, Y. Zhang, Y. Chen, and C. Ti</i>	655
Spectrometer-Driven Spectral Partitioning for Hyperspectral Image Classification	<i>Y. Liu, J. Li, and A. Plaza</i>	668
Hypergraph-Regularized Sparse NMF for Hyperspectral Unmixing	<i>W. Wang, Y. Qian, and Y. Y. Tang</i>	681
Extraction of Endmembers From Hyperspectral Images Using A Weighted Fuzzy Purified-Means Clustering Model ...	<i>L. Xu, A. Wong, F. Li, and D. A. Clausi</i>	695
Sparse Unmixing-Based Change Detection for Multitemporal Hyperspectral Images	<i>A. Ertürk, M.-D. Iordache, and A. Plaza</i>	708
Hyperspectral Anomaly Detectors Using Robust Estimators	<i>J. Frontera-Pons, M. A. Veganzones, F. Pascal, and J.-P. Ovarlez</i>	720
Hyperspectral Band Selection for Anomaly Detection: The Role of Data Gaussianity	<i>M. Huber-Lerner, O. Hadar, S. R. Rotman, and R. Huber-Shalem</i>	732
Retrieval of Atmospheric Thermodynamic State From Synergistic Use of Radio Occultation and Hyperspectral Infrared Radiance Observations	<i>C.-Y. Liu, J. Li, S.-P. Ho, G.-R. Liu, T.-H. Lin, and C.-C. Young</i>	744

(Contents Continued on Page 542)



Multispectral and Hyperspectral Lossless Compressor for Space Applications (HyLoC): A Low-Complexity FPGA Implementation of the CCSDS 123 Standard	<i>L. Santos, L. Berrojo, J. Moreno, J. F. López, and R. Sarmiento</i>	757
Estimating Winter Wheat Leaf Area Index From Ground and Hyperspectral Observations Using Vegetation Indices	<i>Q. Xie, W. Huang, B. Zhang, P. Chen, X. Song, S. Pascucci, S. Pignatti, G. Laneve, and Y. Dong</i>	771
Delineation of Debris-Covered Glaciers Based on a Combination of Geomorphometric Parameters and a TIR/NIR/SWIR Band Ratio	<i>H. Alifu, B. A. Johnson, and R. Tateishi</i>	781
An Improved Land Target-Based Atmospheric Correction Method for Lake Taihu	<i>G. Liu, Y. Li, H. Lyu, S. Wang, C. Du, and C. Huang</i>	793
Estimating High-Resolution Urban Surface Temperature Using a Hyperspectral Thermal Mixing (HTM) Approach	<i>K. Liu, H. Su, and X. Li</i>	804
Validation of EO-1 Hyperion and Advanced Land Imager Using the Radiometric Calibration Test Site at Railroad Valley, Nevada	<i>J. Czaplá-Myers, L. Ong, K. Thome, and J. McCorkel</i>	816
Effects of Soil Surface Roughness on Soil Reflectance Measured in Laboratory and Outdoor Conditions	<i>J. Piekarczyk, C. Kaźmierowski, S. Królewicz, and J. Cierniewski</i>	827
A Framework of Target Detection in Hyperspectral Imagery Based on Blind Source Extraction	<i>G. Wang, Y. Zhang, B. He, and K. T. Chong</i>	835
Characterization of Soil Erosion Indicators Using Hyperspectral Data From a Mediterranean Rainfed Cultivated Region	<i>T. Schmid, M. Rodríguez-Rastrero, P. Escribano, A. Palacios-Orueta, E. Ben-Dor, A. Plaza, R. Milewski, M. Huesca, A. Bracken, V. Cicuéndez, M. Pelayo, and S. Chabrilat</i>	845
Development of a Low-Cost, Lightweight Hyperspectral Imaging System Based on a Polygon Mirror and Compact Spectrometers	<i>K. Uto, H. Seki, G. Saito, Y. Kosugi, and T. Komatsu</i>	861
Hyperspectral Soil Dispersion Model for the Source Region of the Zhouqu Debris Flow, Gansu, China	<i>Q. Wang, Y. Wei, Y. Chen, J. Chen, and Q. Lin</i>	876
Quantitative Detection of Settled Dust Over Green Canopy Using Sparse Unmixing of Airborne Hyperspectral Data	<i>A. Brook and E. B. Dor</i>	884
Effects of Canopy Structural Variables on Retrieval of Leaf Dry Matter Content and Specific Leaf Area From Remotely Sensed Data	<i>A. M. Ali, R. Darvishzadeh, A. K. Skidmore, and I. van Duren</i>	898
Retrieval of Grassland Live Fuel Moisture Content by Parameterizing Radiative Transfer Model With Interval Estimated LAI	<i>X. Quan, B. He, X. Li, and Z. Liao</i>	910
GPU Compute Unified Device Architecture (CUDA)-based Parallelization of the RRTMG Shortwave Rapid Radiative Transfer Model	<i>J. Mielikainen, E. Price, B. Huang, H.-L. A. Huang, and T. Lee</i>	921
Parallel Hyperspectral Coded Aperture for Compressive Sensing on GPUs	<i>S. Bernabé, G. Martín, J. M. P. Nascimento, J. M. Bioucas-Dias, A. Plaza, and V. Silva</i>	932
A Hybrid CPU–GPU Real-Time Hyperspectral Unmixing Chain	<i>E. Torti, G. Danese, F. Leporati, and A. Plaza</i>	945
Fast Spatial Preprocessing for Spectral Unmixing of Hyperspectral Data on Graphics Processing Units	<i>J. Delgado, G. Martín, J. Plaza, L. I. Jiménez, and A. Plaza</i>	952
