



A REVIEW ON MULTIPLE-FEATURE-BASED ADAPTIVE SPARSE REPRESENTATION (MFASR) AND OTHER CLASSIFICATION TYPES

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Abstract- A new technique Multiple-feature-based adaptive sparse representation (MFASR) has been demonstrated for Hyperspectral Images (HSI's) classification. This method involves mainly in four steps at the various stages. The spectral and spatial information reflected from the original Hyperspectral Images with four various features. A shape adaptive (SA) spatial region is obtained in each pixel region at the second step. The algorithm namely sparse representation has applied to get the coefficients of sparse for each shape adaptive region in the form of matrix with multiple features. For each test pixel, the class label is determined with the help of obtained coefficients. The performances of MFASR have much better classification results than other classifiers in the terms of quantitative and qualitative percentage of results. This MFASR will make benefit of strong correlations that are obtained from different extracted features and this make use of effective features and effective adaptive sparse representation. Thus, the very high classification performance was achieved through this MFASR technique.

Index Terms: Hyperspectral Images, Classification, Adaptive sparse representation, Feature extraction, Sparse representation.