

HIGH RESOLUTION SATELLITE DATA FUSION USING WAVELET-BASED FUSION RULE

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The objective of this study is to propose multiresolution data fusion scheme using multiresolution analysis (MRA). Three techniques compared, respectively based on Haar wavelet basis (HWB), Daubechies wavelet basis (DWB), and IHS transform. Daubechies Wavelet Basis (DWB) is far more efficient than the HWB and IHS transform, thus establishing the advantages for data fusion of formally multiresolution analysis. DWB is best image sharpening and maintain the information of original data. Especially, Daubechies wavelet basis is able to enhance image sharpening and preserve spectral information. It has showed the potential application of wavelet transform for higher efficiency for merging spatial and spectral characteristics of multiresolution data.

KEY WORDS: multisensor, multiresolution analysis(MRA), optimal wavelet-based fusion rule(OWFR)