

Title: Clustering and classification by wavelets

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In this work we consider several wavelet-based procedures for clustering and classification purposes. In some situations, the time domain approach may not lead to clear classification or discrimination. When we move to the wavelet domain, the multiresolution analysis leads to look at data in several levels of resolution (or scales) and then the separation may become better. Among the wavelet-based procedures, we mention:

- (a) Multifractal Spectra (MFS) and associated descriptors.
- (b) DWT-CEM procedure: discrete wavelet transform combined with classification expectation maximization algorithm.
- (c) DWT-Schur measures: discrete wavelet transform followed by the use of some Schur monotone measure.
- (d) Wavelet-based Bayesian discriminant function.