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Part II Signal Processing with Order Statistics  
5 Median and Weighted Median Smoothers; 5.1 Running Median Smoothers; 5.1.1 Statistical Properties; 5.1.2 Root Signals (Fixed Points); 5.2 Weighted Median Smoothers; 5.2.1 The Center-Weighted Median Smoother; 5.2.2 Permutation-Weighted Median Smoothers; 5.3 Threshold Decomposition Representation; 5.3.1 Stack Smoothers; 5.4 Weighted Medians in Least Absolute Deviation (LAD) Regression; 5.4.1 Foundation and Cost Functions; 5.4.2 LAD Regression with Weighted Medians; 5.4.3 Simulation; Problems; 6 Weighted Median Filters  
6.1 Weighted Median Filters With Real-Valued Weights  
6.1.1 Permutation-Weighted Median Filters; 6.2 Spectral Design of Weighted Median Filters; 6.2.1 Median Smoothers and Sample Selection Probabilities; 6.2.2 SSPs for Weighted Median Smoothers; 6.2.3 Synthesis of WM Smoothers; 6.2.4 General Iterative Solution; 6.2.5 Spectral Design of Weighted Median Filters Admitting Real-Valued Weights; 6.3 The Optimal Weighted Median Filtering Problem; 6.3.1 Threshold Decomposition For Real-Valued Signals; 6.3.2 The Least Mean Absolute (LMA) Algorithm; 6.4 Recursive Weighted Median Filters  
6.4.1 Threshold Decomposition Representation of Recursive WM Filters  
6.4.2 Optimal Recursive Weighted Median Filtering; 6.5 Mirrored Threshold Decomposition and Stack Filters; 6.5.1 Stack Filters; 6.5.2 Stack Filter Representation of Recursive WM Filters; 6.6 Complex-Valued Weighted Median Filters; 6.6.1 Phase-Coupled Complex WM Filter; 6.6.2 Marginal Phase-Coupled Complex WM Filter; 6.6.3 Complex threshold decomposition; 6.6.4 Optimal Marginal Phase-Coupled Complex WM; 6.6.5 Spectral Design of Complex-Valued Weighted Medians; 6.7 Weighted Median Filters for Multichannel Signals  
6.7.1 Marginal WM filter

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## Sommario/riassunto

Nonlinear Signal Processing: A Statistical Approach focuses on unifying the study of a broad and important class of nonlinear signal processing algorithms which emerge from statistical estimation principles, and where the underlying signals are non-Gaussian, rather than Gaussian, processes. Notably, by concentrating on just two non-Gaussian models, a large set of tools is developed that encompass a large portion of the nonlinear signal processing tools proposed in the literature over the past several decades. Key features include: \* Numerous problems at the end of each chapter to aid

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