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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Introduction -- General Concept with Filtering Vectors -- General Concept with Filtering Matrices -- Single-Channel Signal Enhancement in the STFT Domain -- Multichannel Signal Enhancement in the Time Domain -- Multichannel Signal Enhancement in the STFT Domain -- Binaural Signal Enhancement in the Time Domain.
Sommario/riassunto	This book introduces readers to the novel concept of variable span speech enhancement filters, and demonstrates how it can be used for effective noise reduction in various ways. Further, the book provides the accompanying Matlab code, allowing readers to easily implement the main ideas discussed. Variable span filters combine the ideas of optimal linear filters with those of subspace methods, as they involve the joint diagonalization of the correlation matrices of the desired signal and the noise. The book shows how some well-known filter designs, e.g. the minimum distortion, maximum signal-to-noise ratio, Wiener, and tradeoff filters (including their new generalizations) can be obtained using the variable span filter framework. It then illustrates how the variable span filters can be applied in various contexts, namely in single-channel STFT-based enhancement, in multichannel enhancement in both the time and STFT domains, and, lastly, in time-domain binaural enhancement. In these contexts, the properties of

these filters are analyzed in terms of their noise reduction capabilities and desired signal distortion, and the analyses are validated and further explored in simulations.