DOI: https://doi.org/10.53555/nneee.v2i6.192 Publication URL: https://nnpub.org/index.php/EEE/article/view/192

Review: Audio Noise Reduction Using Filters and Discrete Wavelet Transformation

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How To Cite This Article:
Rani, S. ., & Kaur, R. . (2015). Review: Audio Noise Reduction Using Filters and Discrete Wavelet Transformation. *Journal of Advance Research in Electrical & Electronics Engineering (ISSN 2208-2395)*, *2*(6), 19-23. https://doi.org/10.53555/nneee.v2i6.192

Abstract

Audio noise reduction using filters and Discrete Wavelet Transformation" our applications include noise propagation problem in industrial air handling systems, noise in aircrafts and tonal noise from electric power, as well as isolation of vibration from which noise is one kind of sound that is unexpected or undesired . The noise related problem can be divided into non-additive noise and additive noise. The non-additive noise includes multiplier noise and convolution noise, which can be transformed into additive noise through homomorphism transform. The additive noise includes periodical noise, pulse noise, and broadband noise related problems. There are many kinds of broadband noise, which may include heat noise, wind noise, quantization noise, and all kinds of random noise such as white noise and pink noise. In acoustics applications, noise from the surrounding environment severely reduces the quality of speech and audio signals. Therefore, basic linear are used to denoise the audio signals and enhance speech and audio signal quality. Our main objective is to reduce noise from system which is heavily dependent on the specific context and application. As, we want to increase the intelligibility or improve the overall speech perception quality. Such as SNR, PSNR, MSE and the Time to reduce the noise for noisy signals for removing noise.

Keyword: Chevshevby Type-1 Filter, butterworth filter, elliptic filter, MSE, SNR, PSNR