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Abstract

In mobile devices, perceived speech signal degrades significantly in the presence of background noise as it reaches directly at the listener's ears. There is a need to improve the intelligibility and quality of the received speech signal in noisy environments by incorporating speech enhancement algorithms. This paper focuses on speech enhancement method including auditory masking properties of the human ear to improve the intelligibility and quality of the speech signal in the presence of near-end noise. Implemented by dynamically enhancing the speech signal when the near-end noise dominates. Intelligibility and quality of enhanced speech signal are measured using SII and PESQ. Experimental results show improvement in the intelligibility and quality of the enhanced speech signal with the proposed approach over the unprocessed speech signal. This particular approach is far more efficient in overcoming the degradation of speech signals in noisy environments.

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Index Terms

Computer Science   Signal Processing

Keywords

Gain   Masking   Near-end noise   Speech enhancement   Speech intelligibility   Speech quality