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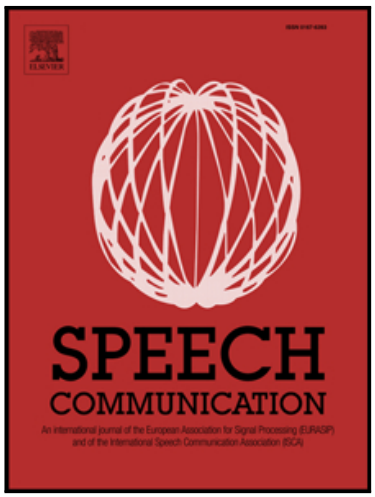

A New Time-Frequency Binary Mask Estimation Method Based on Convex Optimization of Speech Power

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Highlights

- Speech power is considered as an unique cue for binary mask estimation.
- The objective function used for convex optimization is effectively build by means of the cross-correlation between the power spectra of noisy speech and noise in each Gammatone channel.
- The gradient descent method is used to minimize the objective function with limited number of iteration.
- A decision factor for balancing the powers of noisy speech, the estimated speech and the pre-estimated noise is utilized to indicate the dominated components of speech or noise.
- Teager energy of the estimated speech and time-frequency unit smoothing are used to correct the local mask mistakes.

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