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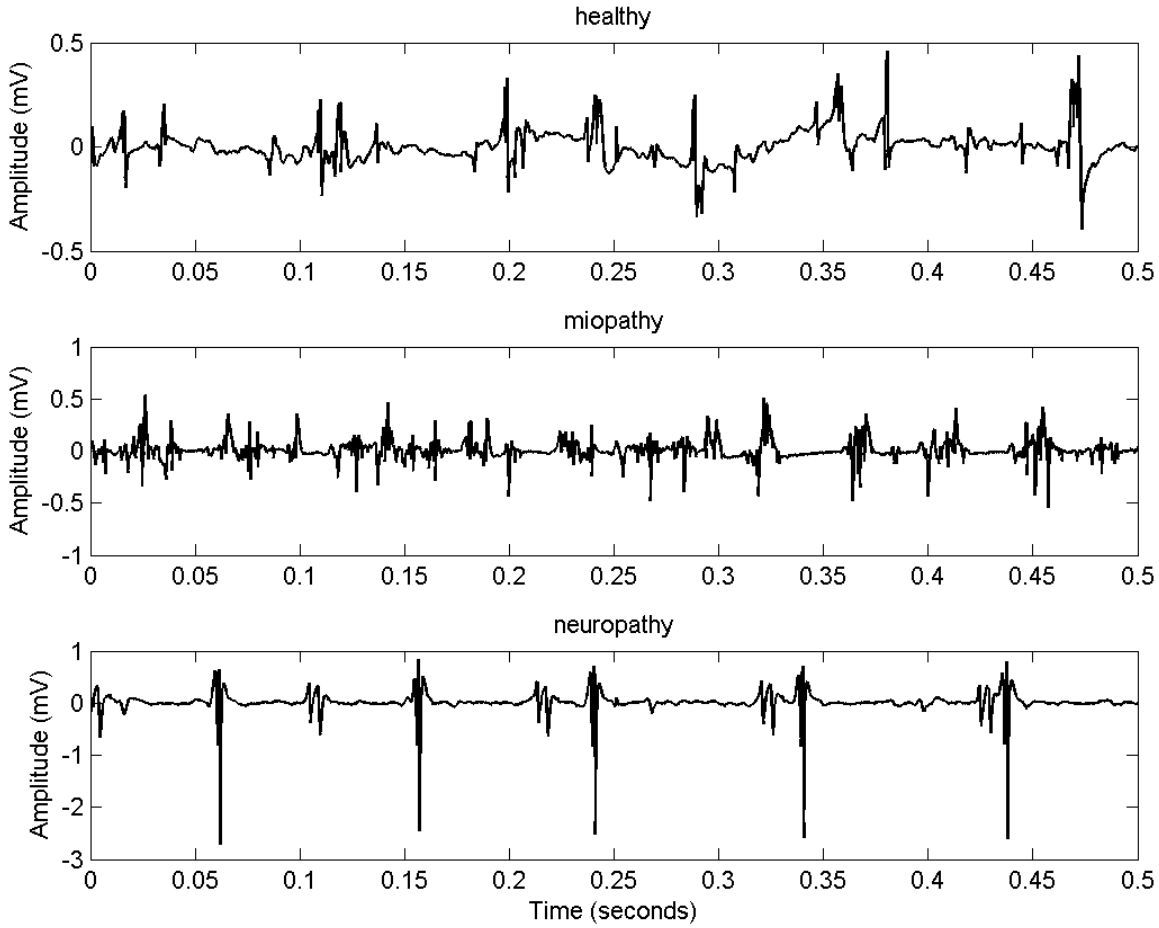
Evaluation of wavelets in noise reduction of Electromyographic signals

Table of contents

Electromyographic signals



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5. Orthonormal basis: $\phi \in V_0$ and $\{\phi(x-k) : k \in Z\}$ is an orthonormal basis for V_0

Thresholding

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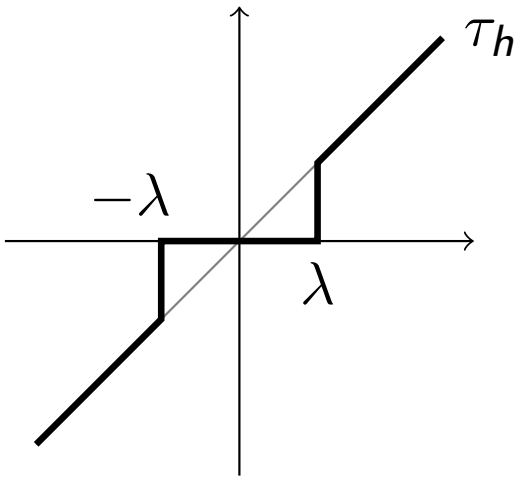

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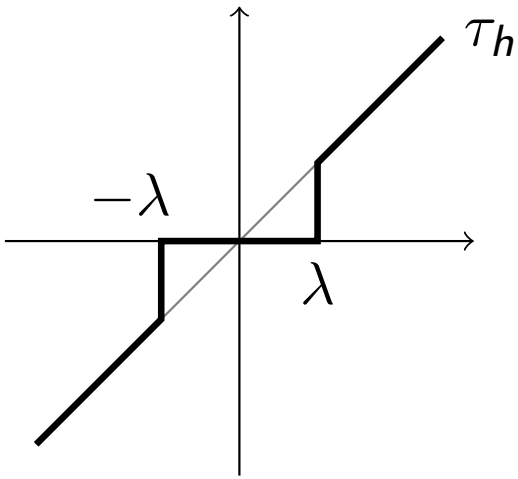

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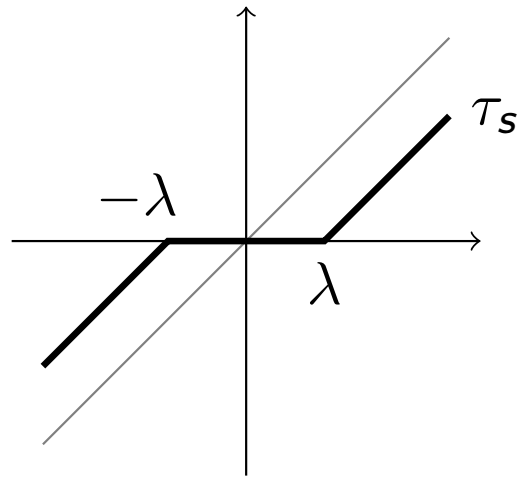
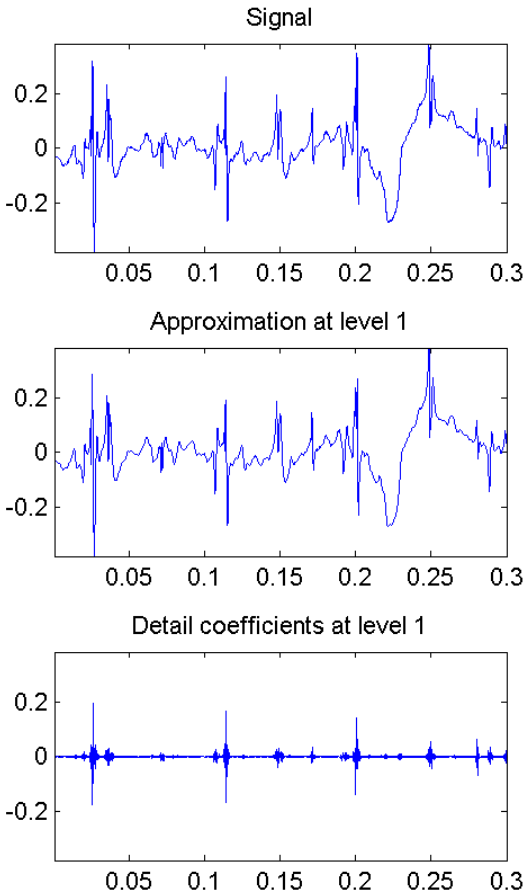


Soft thresholding

Multiresolution Analysis (II)



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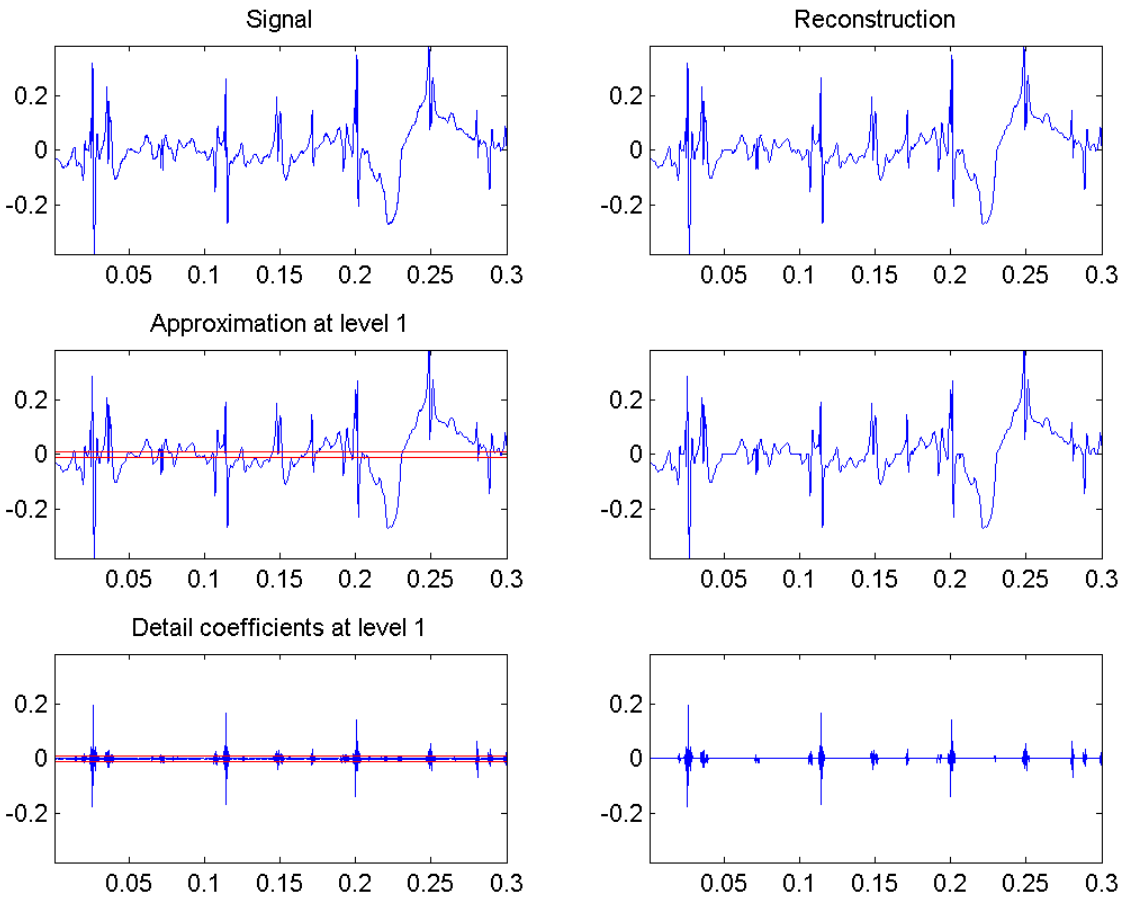

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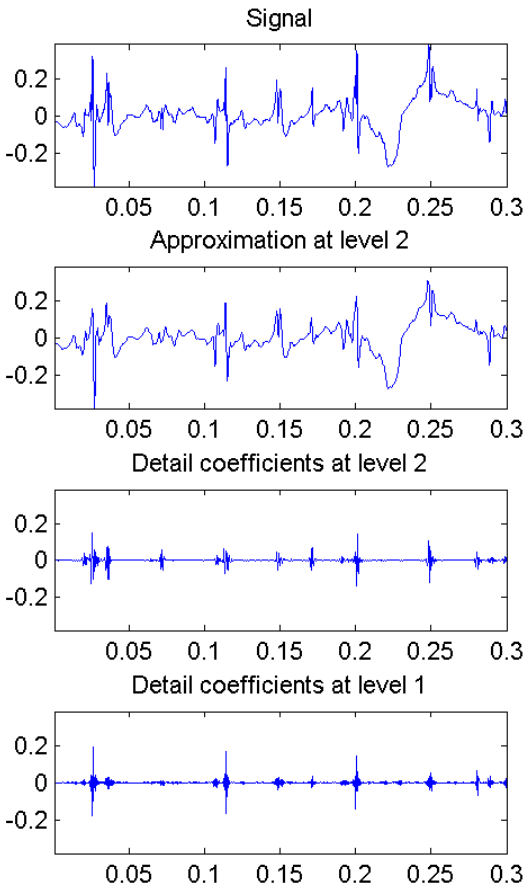

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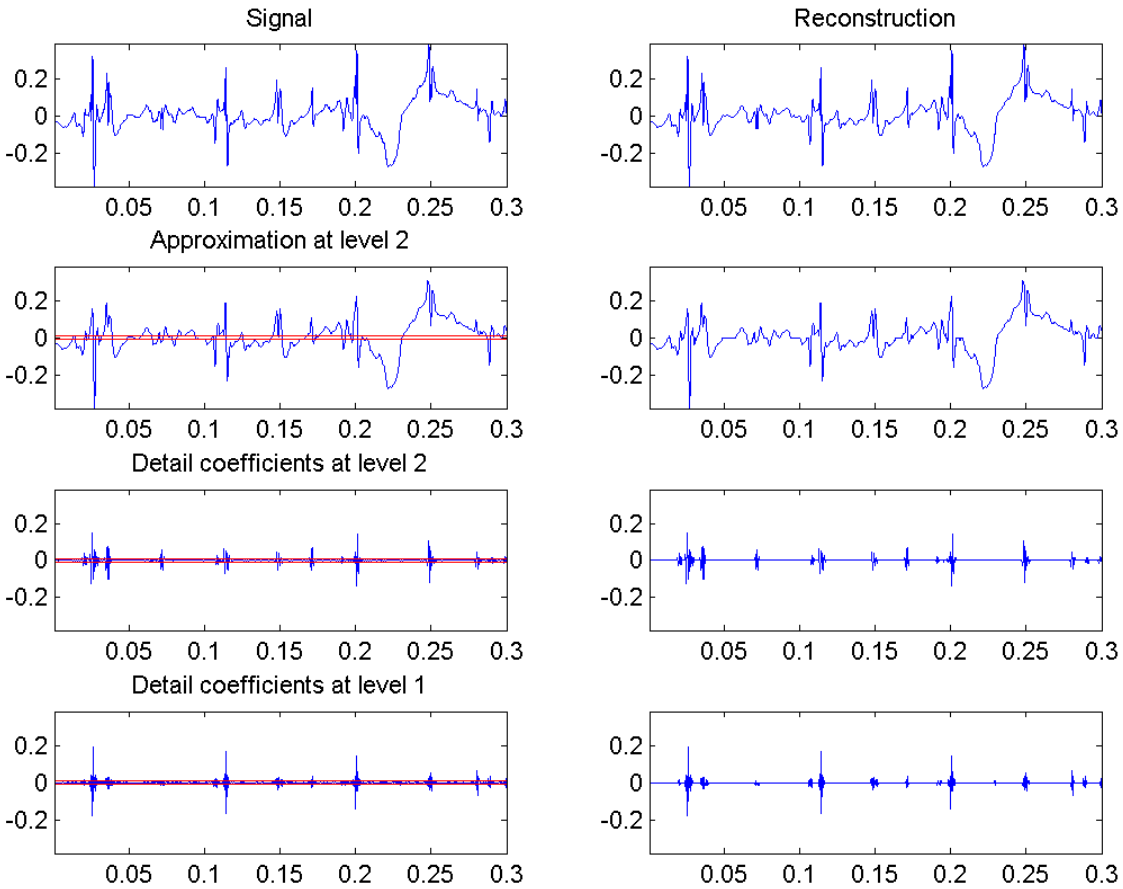

Threshold techniques

- Hard thresholding

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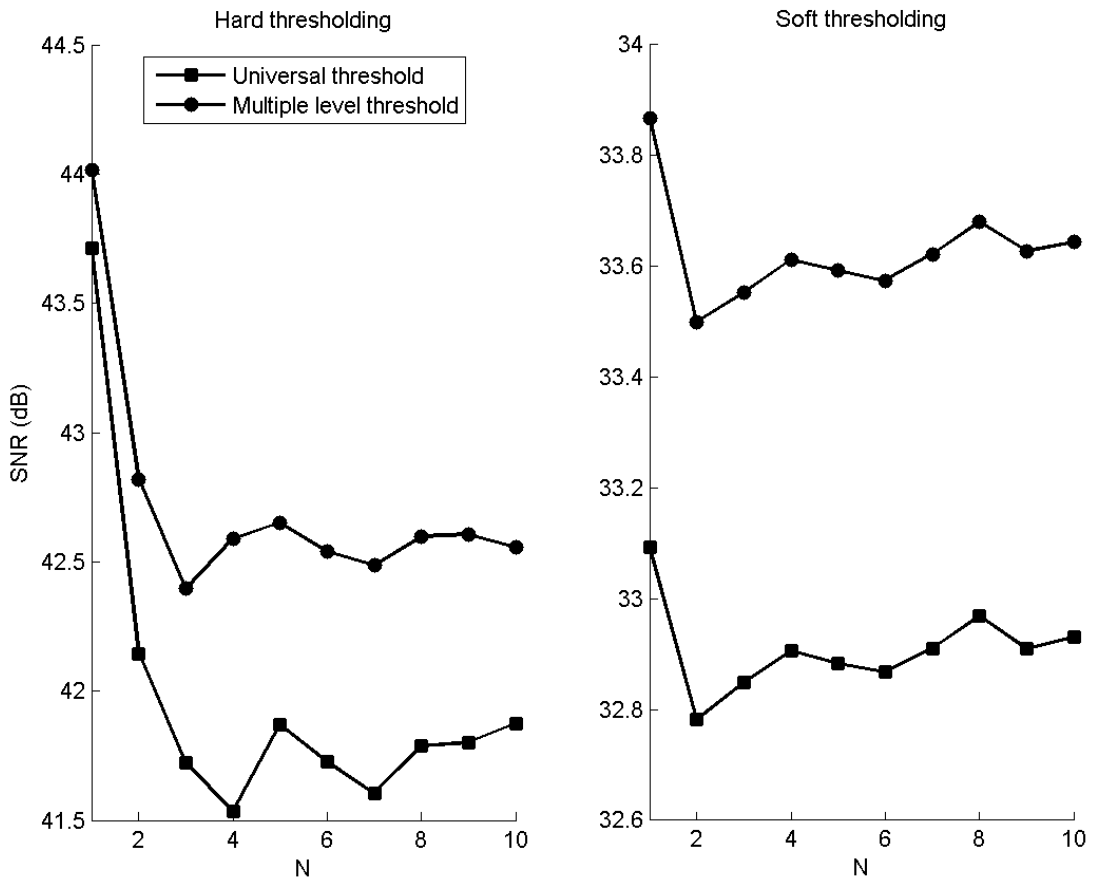
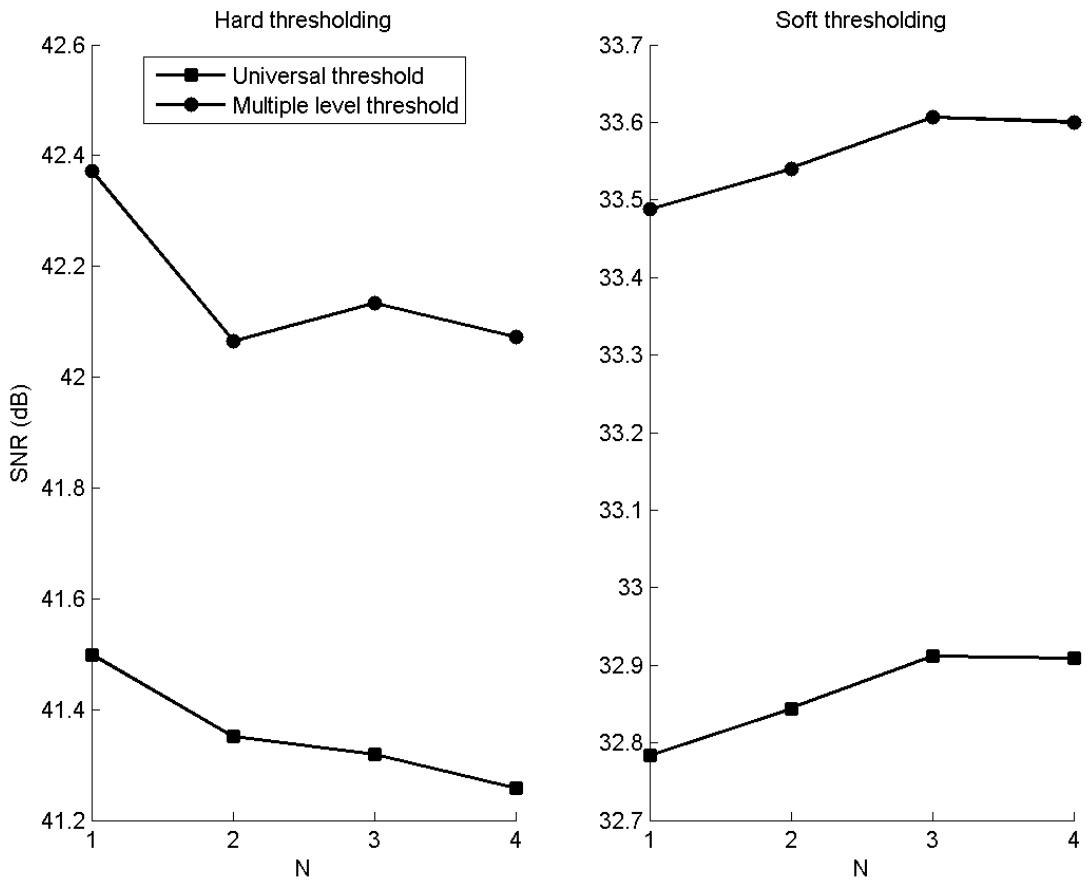
- Multiple level threshold

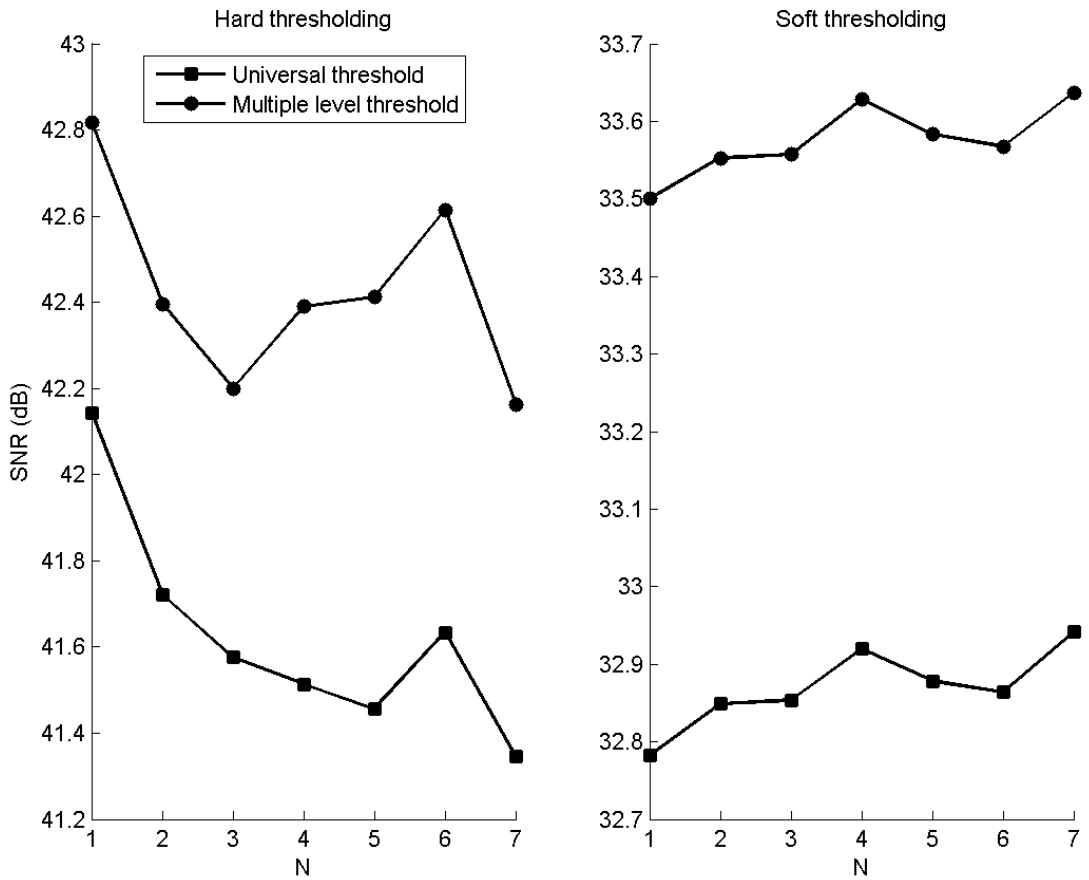
Daubechies family: SNR vs order N



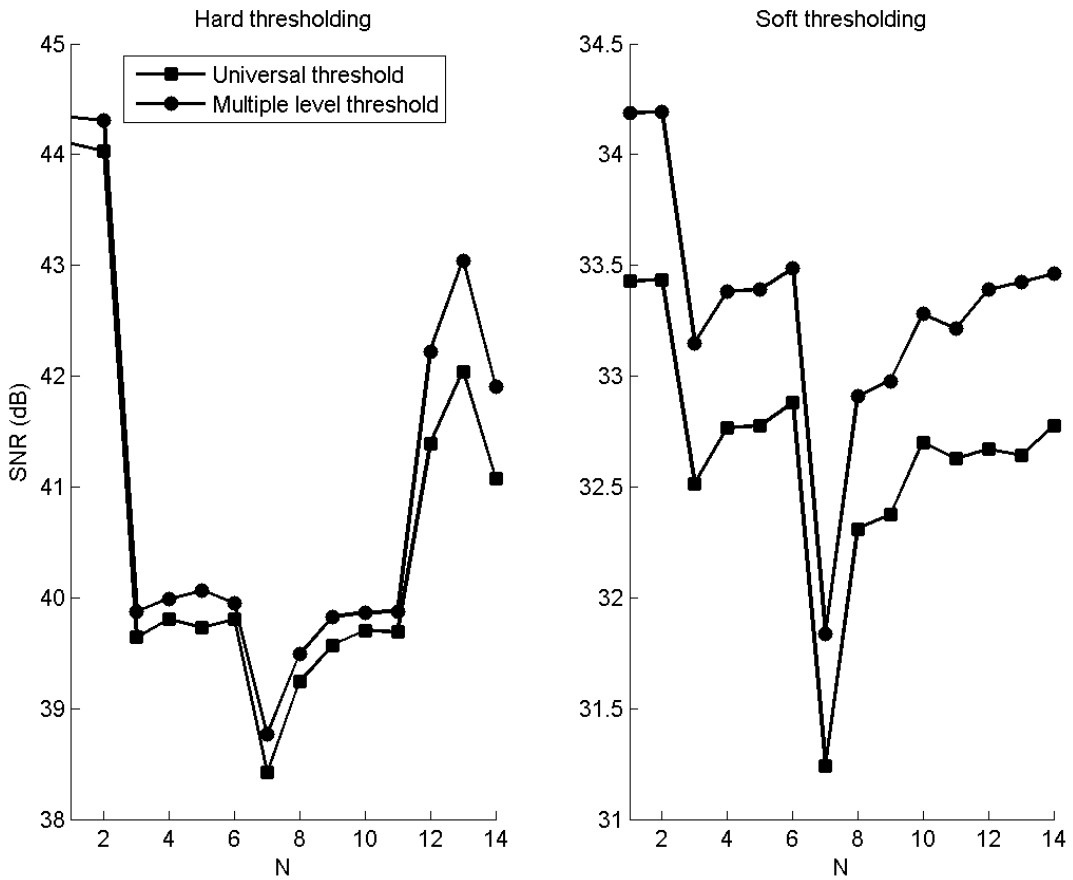
Coiflets family: SNR vs order N



Symlets family: SNR vs order N



Biorthogonal family: SNR vs order N



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2. There are better results using a threshold value for each level of decomposition that a single threshold for all coefficients of the decomposition.
3. One different threshold value for each level of decomposition has no significant influence on the algorithm execution time.

Thank for your attention.