

Translation-Invariant Shrinkage/Thresholding of Group Sparse Signals

Web: <http://eeweb.poly.edu/iselesni/ogs/>

This software implements the 'Overlapping Group Shrinkage' (OGS) algorithm in the paper:

Translation-Invariant Shrinkage/Thresholding of Group Sparse Signals

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The software reproduces examples and figures given in the paper.

The implementation here is for 1D and 2D signals.

OGS can be readily implemented for higher dimensional signals as well.

Example 1 : 1D signal denoising using OGS

Example 2 : Speech denoising using OGS

Example 2 compares OGS with the block thresholding (Yu, Mallat, Bacry, 2008).

We used the authors' software downloaded from:

<http://www.cmap.polytechnique.fr/~yu/research/ABT/samples.html>

Main functions:

ogshrink	overlapping group shrinkage (OGS)
ogshrink2	2D overlapping group shrinkage (OGS)
soft	soft thresholding
stft	short-time Fourier transform (STFT), 50% overlapping
istft	inverse STFT

Examples

Example0	verifies OGS with group size $K = 1$ is soft thresholding
Example1	1D signal denoising
Example2	speech denoising

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