

Total Variation Denoising using the Generalized Moreau Envelope

Software to supplement the paper:

'Non-convex total variation regularization for convex denoising of signals'

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The enclosed software implements and illustrates GME-TV denoising (denoising using the generalized Moreau envelope) of piecewise constant one-dimensional signals.

List of programs:

<code>demo.m</code>	Demonstration program
<code>tv_d_gme.m</code>	GME-TV denoising
<code>tv_d_L1.m</code>	Classical TV denoising
<code>sparse_convmtx.m</code>	sparse convolution matrix

The algorithm for GME-TV denoising uses classical TV denoising as an ingredient. The enclosed software uses the program `TV_Condat_v2` by Laurent Condat for the classical TV denoising step.

<https://lcondat.github.io>

https://lcondat.github.io/download/TV_Condat_v2.m

The blocks signal is from WaveLab

<http://statweb.stanford.edu/~wavelab/>