

Matlab software to accompany the tutorial: 'Introduction to Sparsity in Signal Processing'

<http://cnx.org/content/m43545/latest/>

[http://eeweb.poly.edu/iselesni/lecture\\_notes/sparsity\\_intro/index.html](http://eeweb.poly.edu/iselesni/lecture_notes/sparsity_intro/index.html)

#### Examples:

Example_BP	basis pursuit example (sparse Fourier coefficients)
Example_BPD	basis pursuit denoising example (speech denoising)
Example_deconv	deconvolution using BPD
Example_missing	missing data estimation using BP
Example_dualBP_1	signal component separation (spikes + sinusoids)
Example_dualBP_2	signal component separation (short + long STFT windows)

#### Matlab programs:

A	oversampled DFT
AT	conjugate transpose of 'A'
bp_salsa	basis pursuit (BP) using algorithm SALSA
bpd_salsa	basis pursuit denoising (BPD) using algorithm SALSA
bpd_salsa_sparsemtx	implementation of BPD with sparse matrix A
bp_missing	estimate missing data using BP
dualBP	dual basis pursuit
soft	soft thresholding
pSTFT	Parseval STFT, 50% overlapping
pSTFT2	Parseval STFT, flexible overlap factor
ipSTFT	inverse of 'pSTFT'
ipSTFT2	inverse of 'pSTFT2'
displaySTFT	display STFT coefficients

#### Utility functions:

MyGraphPrefsON	modify Matlab default graphing preferences
MyGraphPrefsOFF	set graphing preference back to Matlab default
mytitle	variation on Matlab title function

Folders:

data	data files for examples
figures	figures produced by the examples for the tutorial
html	html files produced by Matlab 'publish' function

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