User's manual for the SwAMP demo

Using this demo is supposed to be straightforward: one needs only to open MATLAB, go to the current folder and type 'demo'.

As soon as the demo starts, the compilation process is going to take place: SwAMP is written in C, and must be compiled using MATLAB's MEX API. If you have a C compiler in your computer, everything should (hopefully) go smoothly! We have tested the compilation using gcc in different platforms, but we'd expect it to work with other compilers as well.

A few details

- The demo script calls on its turn functions that are on the 'examples' folder. By exploring these, one may get a better grasp of how to use SwAMP.
- SwAMP's source code is located on the 'src' folder; in particular, the bulk of the algorithm is contained in the 'src/solvers/amp.c' file. This version follows exactly the listings in the paper, and is already optimized to work with sparse matrices. Additionally, 3 other versions are present in the same folder: 'gamp.c', which implements G-SwAMP; 'amp_dense.c', a version that isn't optimized for sparse matrices; and 'amp_alt.c', a slight modification of the algorithm that, in spite of reaching the same results, sometimes converges faster.