

REPRODUCIBLE RESEARCH ADDENDUM FOR "COMPRESSIVE SOURCE SEPARATION: THEORY AND METHODS FOR HYPERSPECTRAL IMAGING"

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1. INTRODUCTION

This report and the accompanying code and data is an addendum to [1]. Following the philosophy of Reproducible Research, this material is open and will help the interested reader experiment with the methods described in the main paper. It can also help reviewers check the main experimental results. We have done our best to include all the data used in the paper, just omitting those explicitly protected. However, the paper clearly cites each data origin.

2. CODE

The code is written in Matlab. In order to use these routines, you should first download and install the following freely available toolboxes :

- UNLocBX: this is a general purpose toolbox centered on convex optimization tools for data processing, in particular operator splitting methods. It can be downloaded at <http://wiki.epfl.ch/unlocbox>.
- SPARCO: this is a general purpose toolbox on sparse modeling. It can be downloaded at: <http://www.cs.ubc.ca/labs/scl/sparco>.

Both toolboxes and the code provided with this report use Matlab's operator notation, so their syntax is fully compatible. We provide two templates that can be run as demo but also modified easily. The first templates, `Demo.m`, will run a benchmark of 4 different compressive source separation techniques discussed in the paper on a small size dataset. The second template, `Demo_big_dataset.m`, will run a Total Variation penalized compressive source separation algorithm with uniform sampling and the decorrelation procedure discussed in the paper. Those templates can be very easily modified and feature a clear header explaining all parameters.

3. DATA

We provide the synthetic Geneva dataset discussed in the paper. The other datasets used in the paper can be downloaded from the web, please refer to the bibliography in [1].

4. ACKNOWLEDGMENT

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REFERENCES

- [1] Mohammad Golbabaee, Simon Arberet and Pierre Vandergheynst *Compressive Source Separation: Theory and Methods for Hyperspectral Imaging*, submitted to IEEE Trans. Image Process, 2012.