

5005-C1-32

Massimo Fornasier* (mfornasi@math.princeton.edu), Fine Hall, Washington Road,
Princeton, NJ 08544. *Variational approaches to sparse recovery.*

We present three variational problems associated to specific algorithms for sparse recovery and the analysis of their convergence. The first model gives a unified approach to iterative firm-thresholding algorithms for joint-sparse vector valued solutions. The second and the third address accelerations of the iterative thresholding algorithms, respectively by projected steepest descent and subspace correction iterations. We compare the performances of these algorithms by numerical experiments for the solution of linear inverse problems with sparsity constraints. In this talk we present in part joint results with Ingrid Daubechies, Ignace Loris, and Holger Rauhut. (Received May 26, 2007)