Adaptive Step-size Iterative Algorithm for Sparse Signal Recovery

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Highlights

- A joint Bayesian and optimization framework is proposed for sparse signal recovery.
- Variational Bayesian (VB) method is employed to perform the inference of the Bayesian model and Euclidean projection (EP) is utilized to impose sparsity.
- A maximum likelihood estimator (MLE) of the Bayesian model to speed up the inference with a pre-determined step size is developed.
- The convergence of this MLE-EP algorithm is analyzed and compared with the iterative shrinkage/thresholding algorithm based on the restricted isometry property of the compressive sensing matrix.