Simultaneous separation and deconvolution of multispectral data.

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abstract

In this talk, we present theoretical results on the convergence and stability of a particular iterative algorithm to regularize inverse problems. The algorithm seeks the minimizer of a functional which balances a discrepancy term with an l^p regularization term. The originality of the method is to consider adaptive discrepancy term instead of the classical l^2 discrepancy term.

We then illustrate the theoretical results on a particular astrophysical application: the simultaneous deconvolution and separation maps of astrophysical phenomena. This problem is encountered for example in the treatment of the data acquired by the mission Planck, which will image the anisotropies of the cosmic microwave background with unprecented resolution for a full sky coverage mission..