

Regularization by inexact Krylov methods with applications to blind deblurring

Silvia Gazzola¹ and Malena Sabaté Landman²

¹ University of Bath, Claverton Down, Bath, United Kingdom
`s.gazzola@bath.ac.uk`

² University of Cambridge,
Wilberforce Road, Cambridge, United Kingdom
`ms2845@cam.ac.uk`

Abstract

In this talk I will present a new class of algorithms for separable nonlinear inverse problems based on inexact Krylov methods. In particular, I will focus in semi-blind deblurring applications. In this setting, inexactness stems from the uncertainty in the parameters defining the blur, which are computed throughout the iterations. After giving a brief overview of the theoretical properties of these methods, as well as strategies to monitor the amount of inexactness that can be tolerated, the performance of the algorithms will be shown through numerical examples. This is a joint work with Silvia Gazzola (University of Bath).

References

1. Gazzola, S, Sabaté Landman, M. : Regularization by Inexact Krylov Methods with Applications to Blind Deblurring, SIAM J. Matrix Anal. Appl., 42 (2021) 1528-1552.