Name: An-Bao Xu, xuanbao@wzu.edu.cn

Affiliation: College of Mathematics, Physics and Electronic Engineering, Wenzhou University, China

Title: Parametrized quasi-soft thresholding operator for compressed sensing and matrix completion

Abstract: Compressed sensing and matrix completion are two new approaches to signal acquisition and processing. Even though the two approaches are different, there is a close connection between them. In compressed sensing, based on four basic operator, we give a parametrized quasi-soft thresholding operator and its induced algorithm. Further, by updating parametrized quasi-soft thresholding operator in every iteration, the varied parametric quasi-soft thresholding algorithm is obtained. Then we generalize both algorithms to suit matrix completion. Finally, the convergence of all algorithms are proved, and the numerical results given show that the new algorithms can effectively improve the accuracy to achieve compressed sensing and matrix completion.

Co-author(s): Hugo J. Woerdeman.