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**Raymond H Chan\*** ([rchan@math.cuhk.edu.hk](mailto:rchan@math.cuhk.edu.hk)), Department of Mathematics, The Chinese University of Hong Kong, Shatin, NT, Hong Kong. *Missing Data Recovery by Tight-frame Algorithms with Flexible Wavelet Shrinkage.*

The recovery of missing data from incomplete data is an essential part of any image processing procedures whether the final image is utilized for visual interpretation or for automatic analysis. In this talk, we first introduce our tightframe-based iterative algorithm for missing data recovery. By borrowing ideas from anisotropic regularization and diffusion, we can further improve the algorithm to handle edges better. The algorithm falls within the framework of forward-backward splitting methods in convex analysis and its convergence can hence be established. We illustrate its effectiveness in few main applications in image processing: inpainting, impulse noise removal, super-resolution image reconstruction, and video enhancement. (Received September 13, 2008)