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Jiehua Zhu*, Department of Mathematical Sciences, Georgia Southern University, Statesboro, GA 30460, and **Xiezhang Li**. *A Block Diagonally-Relaxed Orthogonal Projection Algorithm for Computed Tomography.*

The theory of compressed sensing has recently shown that signals and images that have sparse representations in some orthonormal basis can be reconstructed from much less data, at high quality, than what the Nyquist sampling theory requires. In this talk, we will introduce a block diagonally-relaxed orthogonal projection algorithm for computed tomography image reconstruction in the compressed sensing framework and derive its convergence. (Received January 18, 2011)