Meeting: 1003, Atlanta, Georgia, SS 5A, AMS Special Session on Radon Transform and Inverse Problems, I

1003-65-1112 Lisa Perrone* (lisa.perrone@tufts.edu), 503 Boston Avenue - BP 109, Medford, MA 02155. Kronecker Approximations and Anti-Reflexive Boundary Conditions in Image Restoration.

In solving the inverse problem $K\mathbf{f} = \mathbf{g}$ in image restoration, two often-competing issues are the choice of appropriate boundary conditions and the computational intensity of the algorithms used. The recently introduced anti-reflexive boundary condition, advocated for its unique continuity properties at the borders of an image, has been shown to provide for enhanced computational efficiency under certain blurring conditions. In this talk, we introduce an approximation that also provides for enhanced computational efficiency with this boundary condition, but in this case, the blurring conditions are less restrictive. (Received October 04, 2004)