1014-65-586   **James H Money*** (`jmoney@ms.uky.edu`), Department of Mathematics, Lexington, KY 40506-0027. *Total Variation Based Semi-Blind Image Deconvolution.* Preliminary report.

In this talk, we consider PDE-based image deblurring via blind deconvolution where neither the image nor the blurring operator kernel are known. We present an improvement to the Total Variation based blind deconvolution by Chan and Wong, which we call the Semi-Blind Method. The Semi-Blind Method computes an approximation to the original image first, and then uses this as a reference image to recover the original image. We illustrate this method by using the Shock Filter as the approximation scheme, and then apply refinements to the kernel to improve the kernel results in the piecewise constant case. In addition, we derive an adaptive scale kernel recovery method that can also be used with this method. (Received September 20, 2005)