

Meeting: 1003, Atlanta, Georgia, SS 36A, AMS-SIAM Special Session on Mathematical Image Processing, I

1003-94-852 **David M Strong*** (David.Strong@pepperdine.edu), 4634 Briggs Ave, La Crescenta, CA 91214, and **Tony Chan**. *Scale recognition and regularization parameter selection in total variation regularization.*

We show how TV regularization can recognize scale of individual image features, and we show how the perception of scale depends on the amount of regularization applied to the image. We give an automatic and accurate method for finding the minimum value of the regularization parameter needed to remove all features below a user-chosen threshold. Also using this ability of TV regularization to recognize scale, we examine the multiscale effects of TV regularization and we look at the rate of loss of features of different scales. (Received September 30, 2004)