

**Meeting:** 1003, Atlanta, Georgia, SS 17A, AMS-SIAM Special Session on Nonsmooth Analysis in Variational and Imaging Problems, I

1003-62-1036      **Ivan Mizera\*** (imizera@yahoo.com), Department of Mathem. and Statist. Sciences, University of Alberta, Edmonton, Alberta T6G 2G1, Canada. *Penalizing total variation in statistics: triograms and beyond.*

The talk will summarize some efforts in using total variation as a regularization penalty in statistical applications. Special attention will be devoted to certain problems related to nonparametric quantile regression and image warping. Connections to similar methods developed in image processing will be discussed; the differences, arising from the scattered data type formulation of statistical problems, will be pointed out as well. The aspects of numeric realization in the context of finite-element methodology and non-smooth optimization will be addressed. The objectives of the methodology will be illustrated on data-analytic examples. (Received October 03, 2004)