

**Meeting:** 1002, Pittsburgh, Pennsylvania, SS 15A, Special Session on PDE-Based Methods in Imaging and Vision

1002-35-202      **Yunmei Chen\*** (yun@math.ufl.edu), Department of Mathematics, 358 Little Hall, University of Florida, Gainesville, FL 32611, and **Stacey Levine, Murali Rao** and **Jon Stanich**. *Theories and applications of minimizing nonstandard growth functionals.*

We present a model, which minimizes a functional of  $p(x)$  growth ( $p(x) \geq 1$ ) for image denoising, enhancement, and restoration. The diffusion resulting from the proposed model combines isotropic diffusion inside a region with anisotropic diffusion along its edges. Experimental results illustrate the effectiveness of the model in image restoration.

Moreover, we study the existence and uniqueness for the proposed minimization problem and its associated flow, as well as the long-time behavior of the flow. (Received September 14, 2004)