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The Ohio State University, 410 Math Tower, 231 West 18th Avenue, Columbus, OH 43210, and  
**John Gore** and **Zhaohua Ding**. *Region-Scalable Active Contour Model for Image Segmentation*.

Intensity inhomogeneities often occur in real-world images and may cause considerable difficulties in image segmentation. We present a new active contour model that draws upon intensity information in local regions at a controllable scale. A region-scalable fitting energy is defined in terms of a contour and two fitting functions that locally approximate the image intensities. This energy is then incorporated into a variational level set formulation with a level set regularization. Due to the scalability, the proposed model is able to segment images with intensity inhomogeneity. Experimental results for synthetic and real images show desirable performances and promising applications. (Received January 28, 2008)