Jason H Cantarella\* (jason@math.uga.edu), UGA Math Department, Boyd GSRC, Athens, GA 30602, and Jason Parsley. Helicity and Energy Bounds For Vector Fields.

We present new results on computing the helicity of vector fields on domains in  $\mathbb{R}^3$  and using the results to derive energy bounds for those fields. (Received September 23, 2010)