Meeting: 998, Houston, Texas, SS 15A, Special Session on Geometric Variational Problems

998-35-244 Monica Torres* (torres@math.northwestern.edu), 2033 Sheridan Road, Evanston, IL 60208, and Gui-Qiang Chen. Divergence-measure fields, sets of finite perimeter, and conservation laws.

Divergence-measure fields in L^{∞} over sets of finite perimeter are analyzed. A notion of normal traces over boundaries of sets of finite perimeter is introduced, and the Gauss-Green formula over sets of finite perimeter is established for divergence-measure fields in L^{∞} . We present two applications of the theory to conservation laws. (Received February 28, 2004)