1000-35-79   **Monica Torres*** (`torres@math.northwestern.edu`), 2033 Sheridan Road, Evanston, IL 60208, and **Gui-Qiang Chen**, 2033 Sheridan Road, Evanston, IL 60208. *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 some applications of the theory to conservation laws. (Received August 16, 2004)