Ovidiu Savin* (savin@math.columbia.edu), 2990 Broadway, New York, NY 10027, and Daniela De Silva (desilva@math.columbia.edu). Regularity of minimizers to non-smooth energy functional.

We consider the classical problem in the calculus of variations of minimizing $\int F(Du)dx$. We prove C^1 regularity in two dimensions for a large class of non smooth energy functionals. Our results are motivated by the study of random surfaces in three dimensions. (Received August 19, 2008)