

1135-53-2245

Da Rong Cheng* (chengdr@uchicago.edu). *Upper bound for the Green matrix of a class of second order elliptic systems.*

We study a class of second order elliptic systems in divergence form, with Lipschitz leading coefficients and possibly discontinuous lower order terms, and show that the Green matrix, if it exists, grows no faster than $|x - y|^{2-n}$ near the diagonal. Such systems arise, for instance, when one considers the Hodge Laplacian with respect to a Lipschitz metric. The proof uses perturbation arguments and is based partly on the work of Fuchs, who established a similar upper bound in the absence of lower order terms. (Received September 25, 2017)