

On Hölder regularity for elliptic equations of non-divergence type in the plane

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Abstract. This paper is concerned with strong solutions of uniformly elliptic equations of non-divergence type in the plane. First, we use the notion of quasiregular gradient mappings to improve Morrey's theorem on the Hölder continuity of gradients of solutions. Then we show that the Gilbarg-Serrin equation does not produce the optimal Hölder exponent in the considered class of equations. Finally, we propose a conjecture for the best possible exponent and prove it under an additional restriction.

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