

Modulus of continuity of weak solutions to a class of singular elliptic equations

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Abstract. In this paper we study the modulus of continuity of weak solutions to a singular elliptic equation in the plane under very weak assumptions on the integrability of the elliptic coefficients. Our investigation reveals that the modulus of continuity can be described by the reciprocal of the logarithmic function raised to a power. However, the power can be arbitrarily large. This is in sharp contrast with a result by J. Onninen and X. Zhong for a degenerate elliptic equation in the plane, in which the power must be suitably small.

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