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A sup+inf inequality for Liouville type equations with weights. (English) Zbl 1310.35133


Summary: We generalize a result by H. Brézis et al. [J. Funct. Anal. 115, No. 2, 344-358 (1993; Zbl 0794.35048)] and obtain an Harnack type inequality for solutions of $-\Delta u = |x|^{2\alpha} V e^u$ in $\Omega$ for $\Omega \subset \mathbb{R}^2$ open, $\alpha \in (1,0)$ and $V$ any Lipschitz continuous function satisfying $0 < a \leq V \leq b < \infty$ and $\|\nabla V\|_{\infty} \leq A$.

MSC:

35J91 Semilinear elliptic equations with Laplacian, bi-Laplacian or poly-Laplacian
35B65 Smoothness and regularity of solutions to PDEs
35B45 A priori estimates in context of PDEs

References:


Full Text: DOI


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