

Optimal three-ball inequality, quantitative uniqueness for the bi-Laplace equations

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Abstract

In this paper, we prove an optimal three-ball inequality for bi-Laplace equation in some open, connected set. The derivation of such estimate relies on a delicate Carleman estimate for the bi-Laplace equation and some Caccioppoli inequalities to estimate the lower-ters. Based on three -ball inequality, we then derive the vanishing order of solutions, which is a quantitative version of the strong unique continuation property.

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