INSALATE DI MATEMATICA

presents

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Monotonicity Methods for elliptic PDEs

Abstract:

We study unique continuation properties and the asymptotic behaviour from a fixed point for solutions of elliptic equations using the Monotonicity Formula combined with a blow-up analysis. More precisely, we will prove a doubling-type property and use the boundedness of the Frequency Function to find a non-trivial limit profile. We will illustrate these methods by means of a simple example, that is the equation $-\Delta u = fu$.

Keywords: elliptic partial differential equations · unique continuation · blow-up · asymptotics · monotonicity formula

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"Obvious" is the most dangerous word in mathematics.
(Eric Temple Bell)