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On a Uniqueness Property of Harmonic Functions

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Abstract. We investigate the problem of uniqueness for functions u harmonic in a domain Ω and vanishing on some parts of the intersection (not necessarily connected) of Ω with a line m . It turns out that for some configurations u must vanish on the whole intersection of m and Ω , but this is not always the case. Generalizations to solutions of more general analytic elliptic equations are discussed as well.

Keywords. Analytic continuation, harmonic functions, cells of harmonicity, Schwarz reflection principle.

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