

VARIOUS NOTIONS OF MEAN HARMONIC FUNCTIONS

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ABSTRACT. During my talk I will discuss harmonic functions on a metric measure space defined via mean value property (MVP). We consider three approaches: 1) MVP holds on all balls, 2) MVP holds on at least one ball centered at each point, 3) MVP holds in the asymptotic way. I will present the current state of art, relations to other notions of harmonicity and discuss properties of these functions such as maximum principle, the Lipschitz regularity and the Harnack inequality. Moreover, I will present a characterization of strongly harmonic functions via a system of PDEs. The talk is based on a joint work with Adamowicz and Soultanis.

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