Harmonic fibrations of maximal functions

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Abstract

A maximal function is plurisubharmonic and satisfies the homogeneous Monge-Ampere equation. If it is smooth then Bedford and Kalka proved that the domain of the function can be foliated by complex curves with harmonic restrictions of the function to the curves. However, Duval and Levenberg built a continuous maximal function where such curves do not exist on a set of full measure. We will discuss how to replace curves with compact sets with harmonic restrictions.