1112-35-30 **Steve Hofmann**, **Phi Le*** (llc33@mail.missouri.edu), **Jose Maria Martell** and **Kaj Nystrom**. *Quasi-linear PDEs and uniform rectifiability.*

Let $E \subset \mathbb{R}^{n+1}$, $n \geq 2$, be an Ahlfors-David regular set of dimension n. If we assume additionally that $\mathbb{R}^{n+1} \setminus E$ has some "nice" properties then whenever the harmonic measure belongs weak-A_∞ with respect to $H^n|E$ we have E is uniformly rectifiable (i.e. E is locally flat). For more details, the reader may check recent works by Steve Hofmann, José María Martell and their collaborators. In this project, we were interested in the similar result for p-harmonic measure. More precisely, let E be as above and let p, $1 < p < \infty$, be given, let u be a non-negative p-harmonic function in $\Omega := \mathbb{R}^{n+1} \setminus E$ which vanishes continuously on E, and let μ be its associated $p-$harmonic measure supported on E. We prove that the weak-A_∞ property of $p-$harmonic measure, weak-A_∞ with respect to $H^n|E$, implies uniform rectifiability of E. This result is new already in the case of harmonic measure ($p = 2$). (Received June 09, 2015)