

1112-35-204

Mihai Mihailescu* (mmihailes@yahoo.com), 010702 Bucharest, Bucharest, Romania.

Classification of isolated singularities for inhomogeneous operators in divergence form.

Consider the equation $\operatorname{div} \left(\frac{\phi(|\nabla u|)}{|\nabla u|} \nabla u \right) = 0$ on the punctured unit ball from \mathbb{R}^N ($N \geq 2$), where ϕ is an odd, increasing homeomorphism from \mathbb{R} onto \mathbb{R} of class C^1 . Under reasonable assumptions on ϕ we prove that if u is a non-negative solution of the equation, then either 0 is a removable singularity of u or u behaves near 0 as the fundamental solution of the equation. In particular, our result complements to the case on inhomogeneous operators in divergence form Bôcher's Theorem and some classical results by Serrin. (Received August 04, 2015)