9.11.2020

Monday's Nonstandard Seminar 6

15:00

Author: Anna Zatorska-Goldstein (University of Warsaw)

Title: **Potential estimates for solutions of nonstandard growth measure data problems**

Abstract: We study the problem

$$-\mathrm{div}\mathcal{A}(x, Du) = \mu \quad \text{in} \quad \Omega \subset \mathbb{R}^n$$

with a nonnegative bounded measure μ and a Carathéodory function $\mathcal{A} : \Omega \times \mathbb{R}^n \to \mathbb{R}^n$ with Orlicz growth with respect to the second variable. The assumptions naturally cover the case of Laplacian and p-Laplacian. Solutions to such problem can be unbounded, but we can control them by a certain potential of Wolff-type. The estimates we provide have many sharp regularity consequences such as Hölder continuity when measure satisfies a density condition in the relevant Orlicz-Morrey scale.

Based on joint project with Iwona Chlebicka and Flavia Giannetti; see preprint *Wolff potentials and local behaviour of solutions to measure data elliptic problems with Orlicz growth,* arXiv:2006.02172.