UNIVERSITÀ DEGLI STUDI DI PARMA

DIPARTIMENTO DI MATEMATICA E INFORMATICA

http://www.dmi.unipr.it/seminario

Notizie **SEMINARIO di ANALISI** **13 ottobre 2016**

Data: **giovedì 20 ottobre**, ore **15.00**

Luogo: **Aula A**, seminterrato

Relatore: Prof. **Jihoon Ok** (Korea Institute for Advanced Study)

Titolo: **L^q estimates for quasi-linear equations of Schrödinger type in non-smooth domains**

Tutti gli interessati sono invitati a partecipare
Proff. Alessandra Lunardi e Giampiero Palatucci

ABSTRACT: In this talk, we will discuss global higher integrability for the gradient of weak solutions to quasilinear equations of p-Schrödinger type

$$-\mathrm{div}\,(|Du|^{p-2}Du) + V|u|^{p-2}u = -\mathrm{div}\,(|F|^{p-2}F) \quad \text{in } \Omega, \quad u = 0 \quad \text{on } \Omega.$$

Here, V called the potential function is basically nonnegative and the domain $\Omega \subset \mathbb{R}^n$ is bounded and might be a non-graph domain such as fractal domain. In particular, we present a suitable condition on V to obtain higher integrability of Du. This work is a generalization of the result in [Z. Shen, *L^p estimates for Schrödinger operators with certain potentials*, Ann. Inst. Fourier (Grenoble) 45 (1995), no. 2, 513-546] to nonlinear equations in non-smooth domains.