ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

B. Buffoni – B. Dacorogna - H.M Nguyên - Section Mathématiques

SEMINAIRE D'ANALYSE

➢ ***VENDREDI 08 Novembre 2013 à 15h15 - salle MA A331***

Professeur ***QUOC HUNG NGUYEN*** *(*Université de Tours, France) donnera une conférence sur le thème:

«Quasilinear Lane-Emden equations with absorption and Wiener criteria for boundary blow-up problems»

Abstract: In this talk, we will discuss a class of Radon measures μ which the equation $-\Delta_p u + g(x,u) = \mu$ admits a renormalized solution, when $g(x,.)$ is a nondecreasing function, each element of this class is called a good measure. In typical cases: $g(x,u) = |u|^{q-1}u$ and $g(x,u) = sign(u)(e^{\tau|u|^\lambda} - 1)$ when $q > p-1 > 0$ and $\tau, \lambda > 0$, then a measure is good if it is absolutely continuous with respect to Lorentz-Bessel and Hausdorff capacities, respectively.

After we will focus to establish sufficient conditions expressed in terms of Wiener type tests involving Bessel and Hausdorff capacities for the existence of large solutions to equations $-\Delta_p u + |u|^{q-1}u = 0$ and $-\Delta_p u + e^u = 0$ in a bounded domain Ω, respectively, when $q > p-1 > 0$. We will apply these results to equation $-\Delta_p u + a|\nabla u|^q + bu^s = 0$, with $1 < p \leq 2$, $1 \leq q \leq p$, $a > 0, b \geq 0$ and $(q-p+1) + b(s-p+1) > 0$.

This talk is based on joint work with Prof. M.F.Bidaut Veron and Prof. L.Veron.

Lausanne, le 25 octobre 2013
BD/HMN/VL

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