

B. Buffoni – B. Dacorogna – J. Krieger – M. Nguyen – Section Mathématiques

SEMINAIRE D'ANALYSE

➤ **VENDREDI 23 MAI 2014 à 15h15 - salle MA A331**

Docteur **Jonas Luehrmann** (ETH, Zurich) donnera une conférence sur le thème:

« **On the random initial data problem for wave equations with power-type nonlinearity on Euclidean space** »

Abstract: Local well-posedness for wave equations with a defocusing energy-subcritical power-type nonlinearity on Euclidean space is well understood for initial data with subcritical and critical regularity. Despite significant efforts, global well-posedness has not yet been established down to critically regular initial data. In recent years, probabilistic methods have been used to investigate this gap. In this talk, I will present an almost sure global existence result for such equations. I will begin by introducing a randomization procedure for initial data in Sobolev spaces of low regularity that uses a unit-scale decomposition in frequency space. Based on improved almost sure space-time integrability properties of the free evolution of the randomized initial data as well as a probabilistic version of Bourgain's high-low method, we obtain almost sure global existence results. In particular, we will see that there exist global solutions for a large family of initial data with supercritical regularity. This is joint work with Dana Mendelson.

Lausanne, le 19 mai 2014
BD/HMN/MM

Les séminaires qui ont lieu à la Section de Mathématiques sont annoncés sur Internet
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