SEMINAIRE D'ANALYSE

> ➢ **_VENDREDI 4 AVRIL 2014 à 15h15 - salle MA A331_**

Professeur **Jacques Smulevici** (Université Paris-Sud, France) donnera une conférence sur thème:

Title: Future Dynamics of $\mathbb{T}^2$ symmetric polarized space times.

Abstract: Joint Work with Philippe G. LeFloch. In this work, we consider the so-called $\mathbb{T}^2$ symmetric solutions to the vacuum Einstein equations. These are solutions with initial data given on a three torus $\mathbb{T}^3$ which are invariant by the action of $\mathbb{T}^2$ on $\mathbb{T}^3$. The main results that we will present concern the future asymptotic behaviour of the so-called polarized solutions. Under a smallness assumption, we derive a full set of asymptotics for these solutions. Within this symmetry class, the Einstein equations reduce to a system of wave equations coupled to a system of ordinary differential equations. The main difficulty, not present in previous study of similar systems, is that, even in the limit of large times, the two systems do not directly decouple. We overcome this problem by the introduction of a new system of ordinary differential equations, whose unknown are renormalized variables with renormalization depending on the solution of the non-linear wave equations.

Lausanne, le 31 mars 2014
BD/HMN/MM

Les séminaires qui ont lieu à la Section de Mathématiques sont annoncés sur Internet
http://memento.epfl.ch/maths/