

## The resolution of the bounded L2 curvature conjecture in general relativity

*mardi 20 janvier 2015 15:15 (45 minutes)*

In order to control locally a space-time which satisfies the Einstein equations, what are the minimal assumptions one should make on its curvature tensor? The bounded L2 curvature conjecture roughly asserts that one should only need L2 bounds of the curvature tensor on a given space-like hypersurface. This conjecture has its roots in the remarkable developments of the last twenty years centered around the issue of optimal well-posedness for nonlinear wave equations. In this context, a corresponding conjecture for nonlinear wave equations cannot hold, unless the nonlinearity has a very special nonlinear structure. I will present the proof of this conjecture, which sheds light on the specific null structure of the Einstein equations. This talk is intended for a general audience and will require no specific background. This is joint work with Sergiu Klainerman and Igor Rodnianski.

**Auteur principal:** SZEFTTEL, Jérémie

**Orateur:** SZEFTTEL, Jérémie