DEPARTAMENTO DE ANÁLISIS MATEMÁTICO Y MATEMÁTICA APLICADA

Facultad de Ciencias MATEMÁTICAS

Instituto de Matemática Interdisciplinar

SEMINARIO DE ANÁLISIS MATEMÁTICO Y MATEMÁTICA APLICADA

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Disturbing the Big Bang

We will give an introductory talk on the dynamics of the Big Bang singularity and perturbations thereof. This topic has attracted a great deal of attention from both mathematicians and physicists since the heuristic approach of Belinski–Khalatnikov–Lifshitz (known as BKL conjecture, from 1970) and the Mixmaster attractor construction of Misner. We will see how a specific perturbation of the Big Bang singularity will unravel well-known and brand-new dynamical features. Moreover, we will see how such perturbations yield good or bad approximating schemes of the usual Einstein's general theory of relativity.

These results were the fruit of collaborations with K.E. Church, V.H. Daniel, J. Hell, O. Hénot, J.P. Lessard, H. Sprink and C. Uggla.

Organized by: Departamento de Análisis Matemático y Matemática Aplicada and Instituto de Matemática Interdisciplinar (IMI)

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