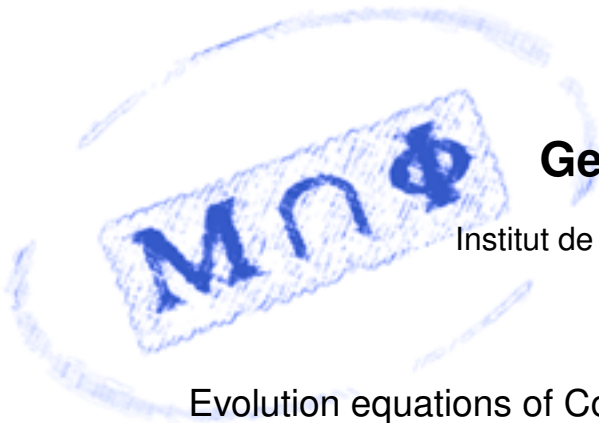


Séminaire de mathématique physique



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Evolution equations of Cosmology described as dynamical systems

Résumé : We explore some examples of energy density evolution equations describing a dynamical system in two different cosmological frames. First we consider a homogeneous and isotropic spacetime Friedman-Lemaître-Robertson-Walker metric which contains cold dark matter and dark energy that interact weakly with one another via a coupling term, Q . We constrain the parameter space of the equation of state of dark energy fields assuming that the variation of the field since last scattering does not exceed Planck's mass. Second we consider spherically symmetric inhomogeneous non-relativistic matter configurations with a positive cosmological constant, given by the Lemaître-Tolman-Bondi metric. The evolution in this phase space of various configurations is studied in detail, in reference to the invariant subspace ("the homogeneous subspace") associated with the subcase of Lambda-CDM solutions with FLRW metric.

Jeudi 18 mars à 16 :15 — salle A318, 3ème étage