ΠΑΝΕΠΙΣΤΗΜΙΟ ΙΩΑΝΝΙΝΩΝ

ΤΜΗΜΑ ΜΑΘΗΜΑΤΙΚΩΝ

Εβδομαδιαίο Σεμινάριο

Generalized Lagrangian Mean Curvature Flow and the Arnol'd Conjecture

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We propose a natural evolution equation to investigate the deformation of Lagrangian submanifolds in almost Kaehler manifolds, in particular in cotangent bundles. We show that the canonical connection on the cotangent bundle of any Riemannian manifold is an Einstein connection (in fact, Ricci flat). The generalized mean curvature vector on any Lagrangian submanifold is related to the Lagrangian angle defined by the phase of a parallel (n,0)-form, just like the Calabi-Yau case. We also show that the corresponding Lagrangian mean curvature flow in cotangent bundles preserves the exactness and the zero Maslov class conditions. We also prove a long time existence and convergence result to demonstrate the stability of the zero section of the cotangent bundle of spheres. This is a joint work with Mao-Pei Tsui and Mu-Tao Wang.

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