



MINI LECTURE SERIES

***W*-entropy formula and rigidity theorems on Wasserstein space over Riemannian manifolds**

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Lecture 1: Entropy formula and rigidity theorems on Riemannian manifolds

June 9, 2015 (Tuesday), 3:00 – 4:30pm

Abstract: In this talk, we present the W -entropy formula for the heat equation of the Witten Laplacian on Riemannian manifolds with various curvature-dimension conditions or with finite dimensional Perelman's modified Ricci flow. Some rigidity results will be discussed also. Finally, we prove a splitting theorem via the Kaimanovich entropy on complete Riemannian manifolds with suitable curvature-dimension condition.

Lecture 2: W -entropy and deformation of geometric flows on Wasserstein space over Riemannian manifolds

June 11, 2014 (Thursday), 3:00 – 4:30pm

Abstract: We introduce the W -entropy and prove its monotonicity along the geodesic flow on the Wasserstein space over Riemannian manifolds. We find that our new W -entropy formula is similar to the W -entropy formula for the heat equation of the Witten Laplacian on Riemannian manifolds. This leads us to introduce a deformation of geometric flows on the Wasserstein space over Riemannian manifolds, which interpolates the geodesic flow on the Wasserstein space and the heat equation of the Witten Laplacian on the underlying manifold. We prove an entropy-energy formula along the deformation of geometric flows with a parameter c .

Room 210, Run Run Shaw Bldg., HKU

All are welcome