Non-preservation of concavity properties by the Dirichlet heat flow o n Riemannian manifolds

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Abstract:

We first characterize concavity properties preserved by the Dirichlet heat flow in a convex domain of the Euclidean space. (This is a joint work with Paolo Sa lani and Asuka Takatsu.)

Next, we show that no concavity properties are preserved by the Dirichlet heat flow in a totally convex domain of a Riemannian manifold unless the sectional curvature vanishes everywhere on the domain.

(This is a joint work with Asuka Takatsu and Haruto Tokunaga.)