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Young-Heon Kim* (yhkim@math.toronto.edu), Department of Mathematics, University of Toronto, 40 St. George Street, Toronto, Ontario M5S 2E4, Canada. *Curvature and continuity of optimal transport.*

In optimal transport theory, one wants to understand optimizing phenomena occurring when transporting mass distributions in Economics, Physics, Probability, Analysis, Geometry, and Biology.

In this talk, we will discuss continuity of optimal transport maps, in view of a pseudo-Riemannian structure which we have formulated recently. A necessary condition for the continuity is given as some non-negativity condition on the curvature of this pseudo-Riemannian metric. This result gives a natural geometric framework and new perspectives for the regularity theory of Ma, Trudinger, Wang, and Loeper. It also yields some extensions of previous results and new examples.

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