1135-57-1391   **Michal Adamaszek**, **Henry Adams** and **Florian Frick*** (`ff238@cornell.edu`). *Metric reconstruction via optimal transport.*

Given a sufficiently dense point sample in a Riemannian manifold, the manifold can be reconstructed up to homotopy equivalence as the Čech or Vietoris–Rips complex of the sample. I will discuss extensions of this beyond Riemannian manifolds and how optimal transport seems to be the correct point of view for metric reconstruction of metric spaces in addition to recovering the homotopy type. (Received September 21, 2017)

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