1139-49-707Mehdi Behroozi* (m.behroozi@neu.edu), 334 Snell Engineering Center, 360 Huntington
Avenue, Boston, MA 02115. Data-Driven Robust Optimization in Routing Problems.

Using Wasserstein metric in defining the ambiguity set in robust optimization allows us to circumvent common overestimation that arises when other procedures are used. In this paper, we consider a distributionally robust version of the Euclidean travelling salesman problem in which we compute the worst-case spatial distribution of demand against all distributions whose Wasserstein distance to an observed demand distribution is bounded from above. We compare the advantages of this method with other approaches for describing the region of uncertainty, such as taking convex combinations of observed demand vectors or imposing constraints on the moments of the spatial demand distribution. (Received February 21, 2018)