
MARTIAL AGUEH, University of Victoria
Barycenters in the Wasserstein space

We introduce a notion of barycenter in the Wasserstein space which generalizes the interpolation of McCann to the case of more than two probability measures. We discuss existence, uniqueness, characterization and regularity of the barycenter, and relate it to the multi-marginal Monge-Kantorovich problem. We then introduce a notion of "barycentric convexity" (i.e. convexity along barycenters) in the Wasserstein space which generalizes the notion of displacement convexity, and we give some examples.