

Optimal transportation on configurations space

Abstract: We investigate here the optimal transportation problem on configuration space for the quadratic cost. It is shown that, as usual, provided that the corresponding Wasserstein distance is finite, there exists one unique optimal measure and that this measure is supported by the graph of the derivative (in the sense of the Malliavin calculus) of a “concave” (in a sense to be defined below) function. For finite point processes, we give a necessary and sufficient condition for the Wasserstein distance to be finite.