

Numerical tours report

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1 Tour 1

I have decided to work with the following distribution (1) to study the optimal transport on a circular distribution.

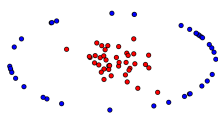


FIGURE 1 – The two weighted distributions

When solving the Kantorovich problem, we observe what was expected : the mass of a dirac is transported toward its nearest neighbours (2).

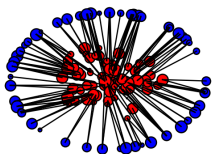


FIGURE 2 – Kantorovich transport

When solving the same problem but with $n = m$, I have observed as expected that the solution is a permutation matrix (3). therefore, using Kantorovich relaxation enables to use the exact solution of the equivalent Monge's problem.

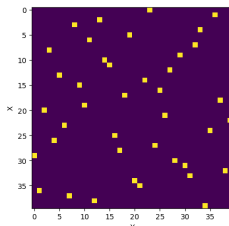


FIGURE 3 – Permutation matrix of the solution of the Kantorovich problem