

Schrödinger meets De Giorgi: entropic interpolation in metric spaces

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Talk Abstract

The classical Schrödinger problem (~ 1931) consists in determining the most likely evolution of a system of independent Brownian particles, given the observation of their statistical distributions at two initial and terminal times. Recently, this interpolation problem was also identified as a noisy perturbation of the geodesic optimal transport problem (in the Wasserstein space of probability measures). The noise is driven by the standard Boltzmann-Gibbs-Shannon entropy at small temperature $\varepsilon > 0$. In the small-noise limit it is known that the blurred problem Gamma-converges towards the deterministic one, which is actually remarkably useful for numerics. In this talk I will discuss a natural extension to dynamical Schrödinger problems driven by general entropy functionals on arbitrary metric spaces, for which the same Gamma-convergence as well as convexity properties can be established.

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References