Ypatia 2022 - June 8-10, 2022

mercredi 8 juin 2022

Abstract: The optimal transport problem studied by Monge (1781) and Kantorovich (1942) provides a general method for metrizing the set of Borel probability measures on $\mathbf R^d$. The purpose of this talk is to present an analogous method for comparing density operators on $L^2(\mathbf R^d)$, which are the quantum mechanical analogues of probability measures on the phase space $\mathbf R^d\times\mathbf R^d$. We shall discuss some properties of the ``pseudo-distance'' on quantum states obtained in this way, and show applications to some problems in quantum dynamics. (Based on joint works with E. Caglioti, C. Mouhot, T. Paul). **(16:30 - 17:30)**