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The Benamou-Brenier formula on metric graphs

The Benamou-Brenier formula is a dynamical formulation of the Wasserstein distance $W_2^2(\mu, \nu)$ between two probability measures $\mu, \nu \in \mathcal{P}(\mathbb{R}^d)$. In 2017, Gigli and Han obtained a version of the formula on metric measure spaces, but they required a uniform bound on the connecting curve with respect to the reference measure. While this assumption is natural, it is unnecessarily restrictive in the setting of a metric graph. Erbar, Forkert, Maas and Mugnolo proved in 2021 a Benamou-Brenier formula in this setting using a regularization argument. In this talk, I will give the main idea and steps of this proof.