Discussion

- Possible directions on model training, improving

  - Simulation-free, Iterative Markovian fitting

  - Learnable references? Networked-noising process?

- Other models: e.g., based on Wasserstein gradient flow interpretation

  - TSHeat-BM driven TSBP solves a WGF of a functional [Caluya]

    Dirichlet energy

    $$\mathscr{F}(\nu) = c \int_{\mathbb{R}^n} \frac{1}{2} x^\top L x \cdot \nu(x)\, dx + \frac{1}{2} g^2 \int_{\mathbb{R}^n} \nu \log \nu\, dx := c \mathbb{E}_\nu[D(x)] + \frac{1}{2} g^2 S(\nu)$$

  - JKO (Jordan-Kinderlehrer-Otto) flow based learning [Bunne 2022]

Discussion

- Time-varying domain

- Discrete distributions on graphs instead of continuous

  - Noising process? Random walk with Jump measure

- Conclusion:

  - SBP on topological domains

  - Tractable topological stochastic dynamics

  - Optimal solutions (general case, Gaussian case)

  - TSB-based learning model for generation and matching