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

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

  - 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