

Diffusion without noise (using score-based ODE)
 Prior-free score approximation (no NNs, RBF etc.)

Arises naturally from PDE formulation!

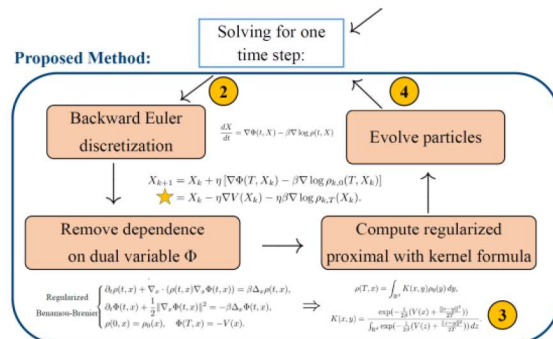
Deterministic Sampling with Wasserstein Proximals

Hong Ye Tan

Joint work with: Stanley Osher (UCLA), Wuchen Li (USC)

Department of Applied Mathematics and Theoretical Physics, University of Cambridge

(1) Method



(2) Convergence

$$t_{\text{mix}}(\delta) = \mathcal{O}(\kappa^{3/2} \log(\kappa \sqrt{d}) / \delta)$$

Comparisons: ULA: $\mathcal{O}((d^3 + d \log^2(1/\delta)) \kappa^2 \delta^{-2})$

MALA: $\mathcal{O}(d^2 \kappa \log(\kappa/\delta))$

Better dependence on problem dimension d !

(3) Pretty pictures

