

Preprints

1. Daniel A Messenger and David M Bortz. Asymptotic consistency of the WSINDy algorithm in the limit of continuum data. [arXiv preprint arXiv:2211.16000](#), 2022

Publications

1. Daniel A Messenger, Graycen E Wheeler, Xuedong Liu, and David M Bortz. Learning anisotropic interaction rules from individual trajectories in a heterogeneous cellular population. [Journal of the Royal Society Interface](#), 19, October 2022
2. Daniel A. Messenger, Emiliano Dall’Anese, and David Bortz. Online weak-form sparse identification of partial differential equations. In Bin Dong, Qianxiao Li, Lei Wang, and Zhi-Qin John Xu, editors, [Proceedings of Mathematical and Scientific Machine Learning](#), volume 190 of [Proceedings of Machine Learning Research](#), pages 241–256. PMLR, 15–17 Aug 2022
3. Daniel A. Messenger and David M. Bortz. Learning mean-field equations from particle data using wsindy. [Physica D: Nonlinear Phenomena](#), page 133406, July 2022
4. Daniel A. Messenger and David M. Bortz. Weak SINDy For Partial Differential Equations. [Journal of Computational Physics](#), 443:110525, October 2021
5. Daniel A. Messenger and David M. Bortz. Weak SINDy: Galerkin-Based Data-Driven Model Selection. [SIAM Multiscale Modeling & Simulation](#), 19(3):1474–1497, Sept. 2021
6. Daniel Messenger and Razvan C. Fetecau. Equilibria of an aggregation model with linear diffusion in domains with boundaries. [Mathematical Models and Methods in Applied Sciences](#), 30(04):805–845, April 2020
7. Razvan C. Fetecau, Hui Huang, Daniel Messenger, and Weiran Sun. Zero-diffusion limit for aggregation equations over bounded domains. [Discrete and Continuous Dynamical Systems](#), Oct. 2022