« Atelier sur les relations de fluctuation entropique en mathématiques et physique »
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On finding gradient flow equations from particle observations

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A method is presented to use observations of particle fluctuations to computationally extract the thermodynamic metric in macroscopic evolution equations of gradient flow-type along the entropy. For this we consider particle systems in local equilibrium, which exhibit Gaussian fluctuations. Entropy-driven gradient flows have attracted much theoretical attention as alternative ways to represent the dynamics of a variety of dissipative systems. The new approach uses them to characterise the evolution equations of these systems from observation data, thus making this concept more accessible for applications.

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