Abstract Submitted
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A manifold-based sampling method for scientific inference ALVIN CHUA, Jet Propulsion Lab — Bayesian inference in the physical sciences typically involves the density estimation of a defined posterior distribution through stochastic sampling, but this procedure can be hindered by the complexity and computational cost of using an accurate physical model. However, the noise assumptions in the inference problem are often much simpler, allowing the posterior to be cast as a common probability distribution (e.g., multivariate normal) that is restricted to an embedding of the model space into its domain. I propose a sampling framework that uses geometric information from such an embedding to aid local convergence, and to enable hyperefficient upsampling for a near-converged set of samples.

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