Markov Chain Monte Carlo for Inverse Problems

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April 24, 2020

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1.1 Papers

1.1.1 Stuart et al: Inverse Problems: A Bayesian Perspective [3]

Theoretical Background

1.1.2 Cotter et al: MCMC for functions [1]

Implementation, MCMC in infinite dimensions

1.1.3 Schneider et al: Earth System Modeling 2.0 [2]

Example for MCMC on ODE

References

[1] S. L. Cotter, G. O. Roberts, A. M. Stuart, and D. White. MCMC Methods for Functions: Modifying Old Algorithms to Make Them Faster. *Statistical Science*, 28(3):424–446, August 2013. Publisher: Institute of Mathematical Statistics.

[2] Tapio Schneider, Shiwei Lan, Andrew Stuart, and João Teixeira. Earth System Modeling 2.0: A Blueprint for Models That Learn From Observations and Targeted High-Resolution Simulations. *Geophysical Research Letters*, 44(24):12,396–12,417, 2017. _eprint: https://agupubs.onlinelibrary.wiley.com/doi/pdf/10.1002/2017GL076101.

[3] A. M. Stuart. Inverse problems: A Bayesian perspective. *Acta Numerica*, 19:451–559, May 2010.