

Stochastic processes with long memory

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Abstract

We introduce two main approaches to stochastic chain with long memory. 1) The "process approach", where \mathbb{Z} is interpreted as time and 2) the "random field" approach where \mathbb{Z} is interpreted as space. In both frameworks a notion of continuity is present: regularity in the former, and Gibbsianity in the later. We will explain what is known concerning the relation between both approaches, and what are the main open questions in the field. All along the talk, I will try to mention the relation to a third approach: Ergodic Theory.