INFORMATION-THEORETIC APPROACHES TO TIME SERIES MODELING

Maximum Caliber and predictive rate-distortion theory are different approaches to time series modeling motivated by information theory. These techniques have been used to model gene expression, neural spike trains, planar disorder in crystals, bird flocking, nuclear reactions, and more; they are especially useful when very little is known a priori about the underlying system, and when new theory must therefore be derived from the data. In this talk, I'll explain how these different approaches to time series modeling are related.

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