Mutual Information

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- Every input or output is an entire time-series

$$I = \sum_{s,x} P(s,x) \log \frac{P(s,x)}{P(s)P(x)}$$

- Quantifies information that is stored in the *time-dependence* of quantities

- The information rate = (asymptotic) increase of MI with trajectory duration

between Trajectories

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Conventional Information Estimate

Model-free estimate