

Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Universal statistics of terminal dynamics before collapse NICOLAS LENNER, STEPHAN EULE, FRED WOLF, Max Planck Institute for dynamics and self-organization — Recent biological developments have both drastically increased the precision as well as amount of generated data, allowing for a switching from pure mean value characterization of the process under consideration to an analysis of the whole ensemble, exploiting the stochastic nature of biology. We focus on the general class of non-equilibrium processes with distinguished terminal points as can be found in cell fate decision, check points or cognitive neuroscience. Aligning the data to a terminal point (e.g. represented as an absorbing boundary) allows to devise a general methodology to characterize and reverse engineer the terminating history. Using a small noise approximation we derive mean variance and covariance of the aligned data for general finite time singularities.

Nicolas Lenner
Max Planck Inst

Date submitted: 16 Nov 2016

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