
Natural measures and statistical properties for non-statistical dynamical systems

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I will present recent joint work with I. Melbourne (University of Warwick, UK) and A. Talebi (Sharif University, Iran) in which we show that a large class maps that do not admit physical measures nevertheless exhibit strong statistical properties. In particular, we give sufficient conditions for existence of a distinguished natural measure ν such that the push forwards of any absolutely continuous probability measure converge to ν . Moreover, we obtain a distributional limit law for empirical measures. We also extend existing results on the characterization of the set of almost sure limit points for empirical measures. Our results apply to various intermittent maps with multiple neutral fixed points preserving an infinite σ -finite absolutely continuous measure.
