1094-37-343 **Luc Rey-Bellet*** (luc@math.umass.edu), University of Massachusetts Amherst, Dept of Mathematics and Statistics, 710 N Pleasant Street, Amherst, MA 01060. *Time reversal symmetry breaking in dynamical systems.*

The symmetry under time reversal is a fundamental property in dynamical systems of physical origin. We discuss this property and the related concept of entropy production which singles out an observable which measure the possible spontaneous symmetry breaking of the time reversal. We discuss the fluctuations properties of this observables by using both spectral methods and the thermodynamical formalism. Several illustrative examples will be provided. (Received August 27, 2013)