



Contribution ID: 11

Type: **Poster**

Fluctuations of work and heat in a driven entropic potential

Sunday, 18 September 2022 17:12 (3 minutes)

We consider the motion of an over-damped Brownian particle in two-dimensional bilobal confinement driven by a periodic field in the presence of a transverse bias force (G). The confinement results in an entropic bistable potential in a reduced dimension. We calculate the work done and absorbed heat over a period and their mean and relative variance fluctuations in entropy and energy-dominated regimes. This system exhibits the entropic stochastic resonance phenomena. The stochastic resonance phenomena can be described by the mean value of work done and absorbed heat over a period as function of noise strength and frequency input. It is found that the heat fluctuations over a single period are always greater than the work fluctuations. We also discuss the applicability of steady-state fluctuation theorems in this system.

Primary author: Mr ALI, Syed Yunus Ali (Indian Institute of Technology Tirupati)

Presenter: Mr ALI, Syed Yunus Ali (Indian Institute of Technology Tirupati)

Session Classification: Poster session party