

HW#2

① Derive Liouville's theorem of classical statistical mechanics.

② In Mandal & Jarzynski, PNAS 2012:

Derive Eq. 8a for $\Phi(\delta, \epsilon, \tau)$ in the demon-bit system in periodic steady state, with the demon under load as described in the paper.

Discuss the $\tau \rightarrow 0$ & $\tau \rightarrow \infty$ limits.

Also, discuss what happens as the load is removed: $f \rightarrow 0$.

③ Read Bérut et al Nature 2012 (see website) on the experimental verification of Landauer's principle.