

# Bipartite Entanglement Entropy

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# Quasiperiodic Kicked Rotor

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- ▶ This has the drawback of increasing computational complexity of each individual step and the memory used at any given time is large.

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- ▶ Peak memory required scales the same way but we have reduced it by a constant factor and it is not used in all calculations.

## Results

We use  $\hbar = 2.85$ ,  $\omega_2 = 2\pi\sqrt{5}$ ,  $\omega_3 = 2\pi\sqrt{13}$ , the momentum ranges from -10 to 10

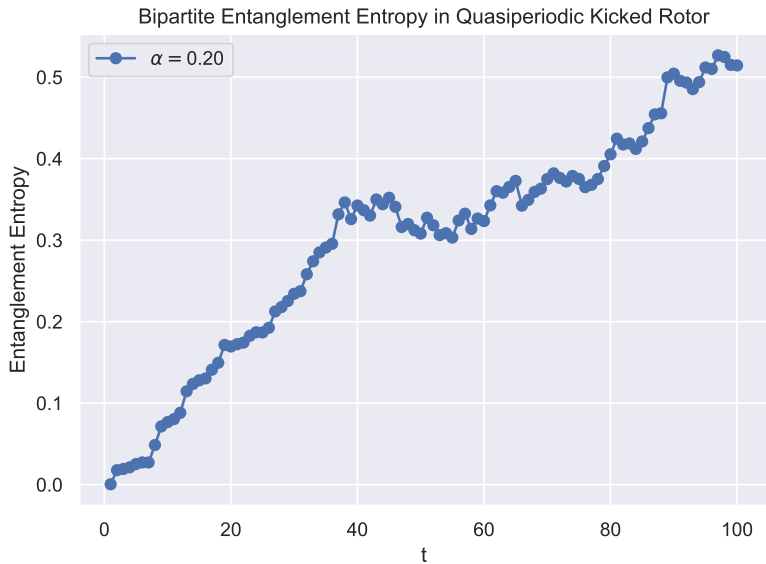


Figure 1: Precritical (Insulator):  $K = 4, \alpha = 0.2$

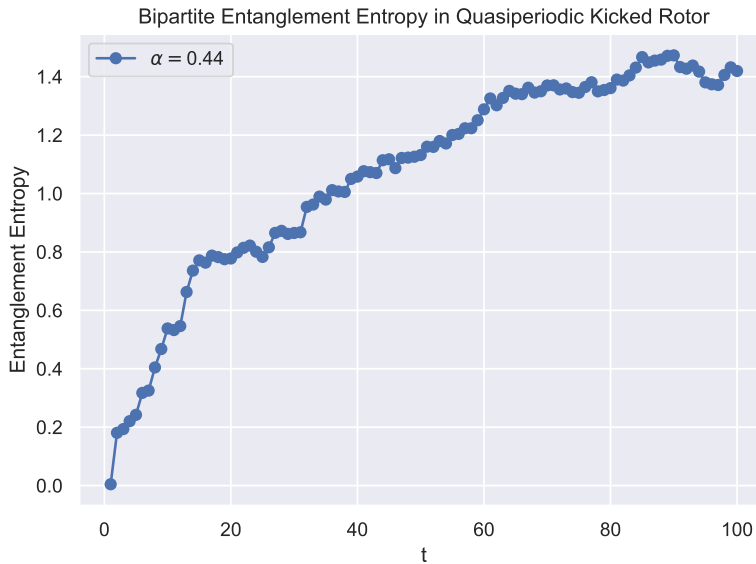


Figure 2: Critical:  $K = 6.36, \alpha = 0.4375$

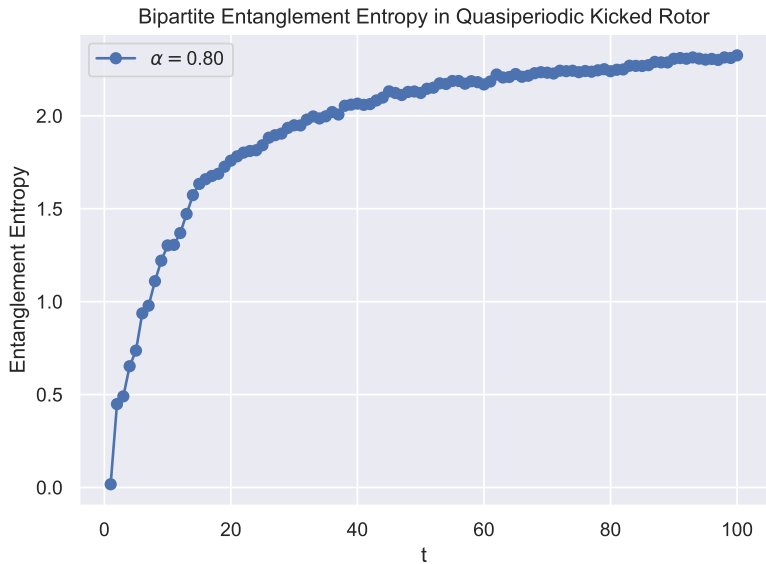


Figure 3: Post-critical (Metal):  $K = 8, \alpha = 0.8$

- ▶ I don't see much of a trend here. The entanglement grows faster and higher with higher  $K$  values i.e. more diffusive the regime higher the entanglement for the same number of time steps but other than that, I don't see anything here.