[P7] Generalized Szilard's Engine

Juyong Song, APCTP

We study generalized Szilard's engine (SZE) with q partitions and N particles. In this study, we provide the bound of extractable work of SZE by using mutual information. We also find conditions that asymmetric partitioning can extract more work than symmetric partitioning. This asymmetric solution looks coming from nonlinearity of the mutual information. This study would be helpful to apply information thermodynamics to the various field, because we clearly demonstrate the relation between mutual information and the extractable work of SZE.