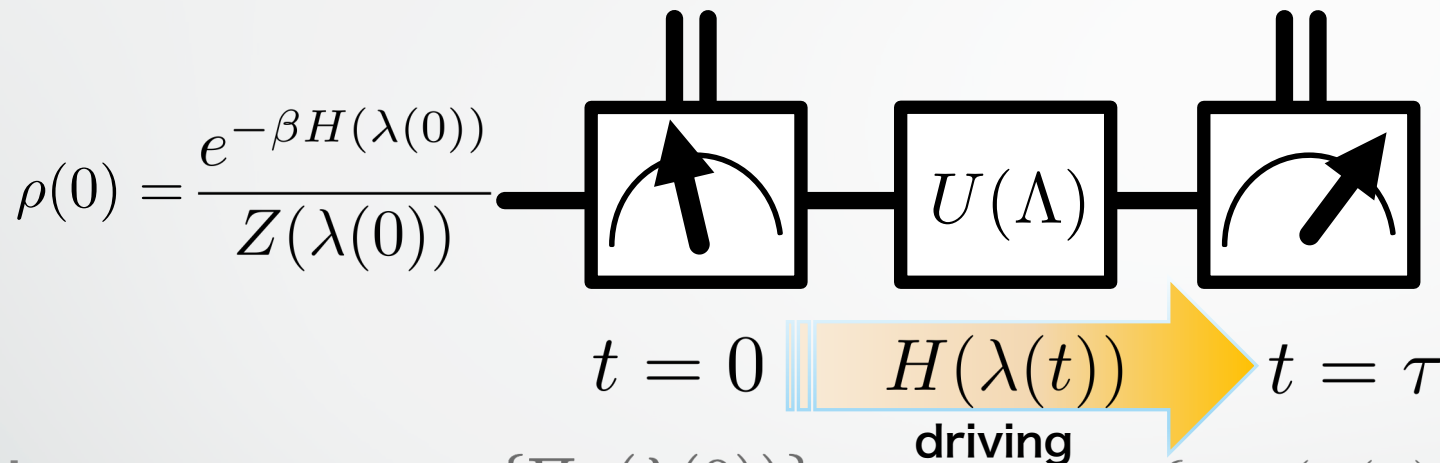


Generalized quantum measurements and quantum work compatible with fluctuation theorems

[Y206 No.10]

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$$w = -e_n(\lambda(0)) + e_m(\lambda(\tau))$$



Fluctuation theorems

Jarzynski eq.

$$\langle e^{-\beta w} \rangle = e^{-\beta \Delta F}$$

Crooks rel.

$$p_\Lambda(w) = e^{-\beta(\Delta F - w)} p_{\bar{\Lambda}}(-w)$$

- Projective measurement of the Hamiltonian

- Generic instruments



?



?



What generalized quantum measurements (instruments) are compatible with fluctuation theorems?