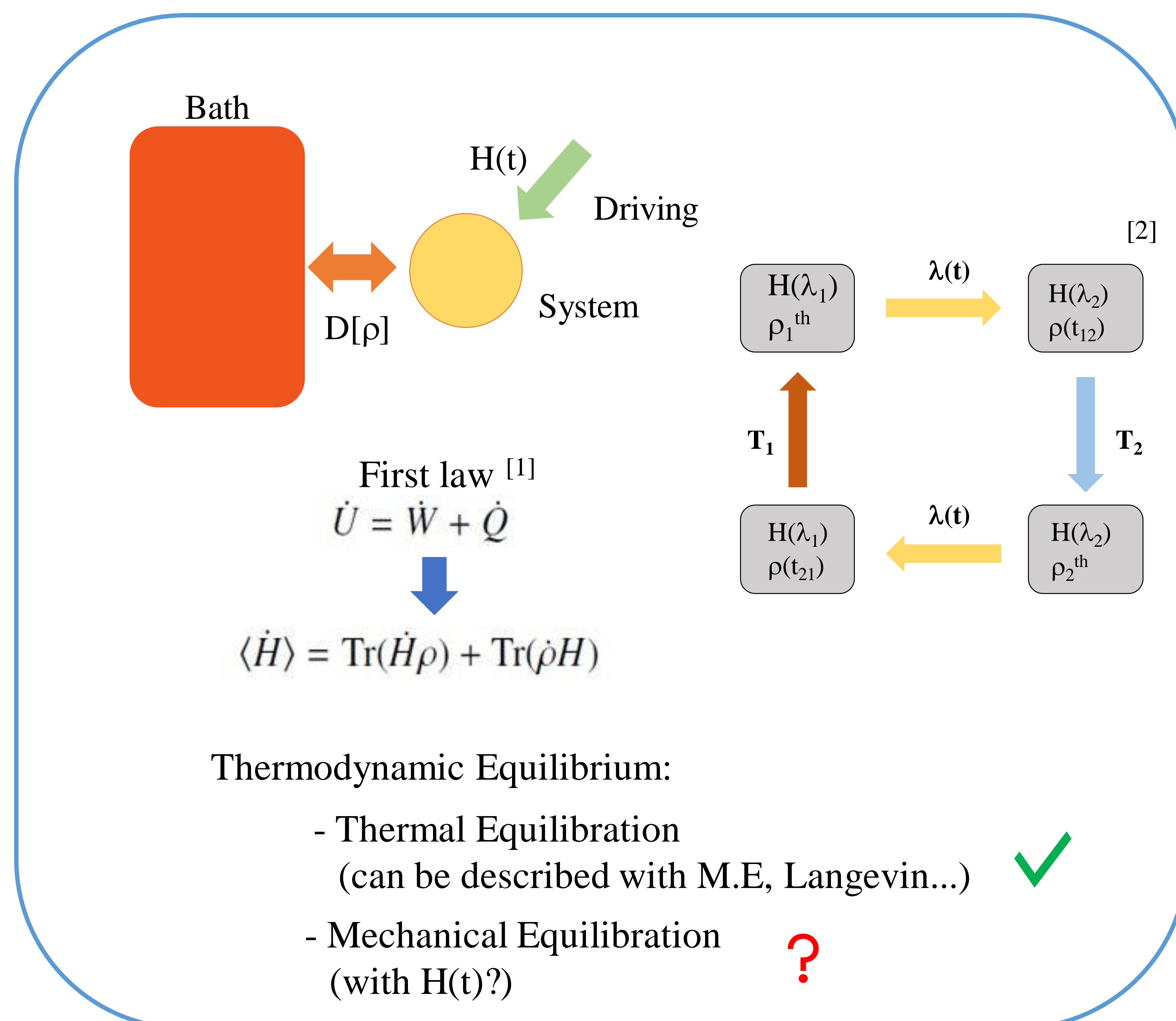


# Modelling mechanical equilibration processes of closed quantum systems: a case-study

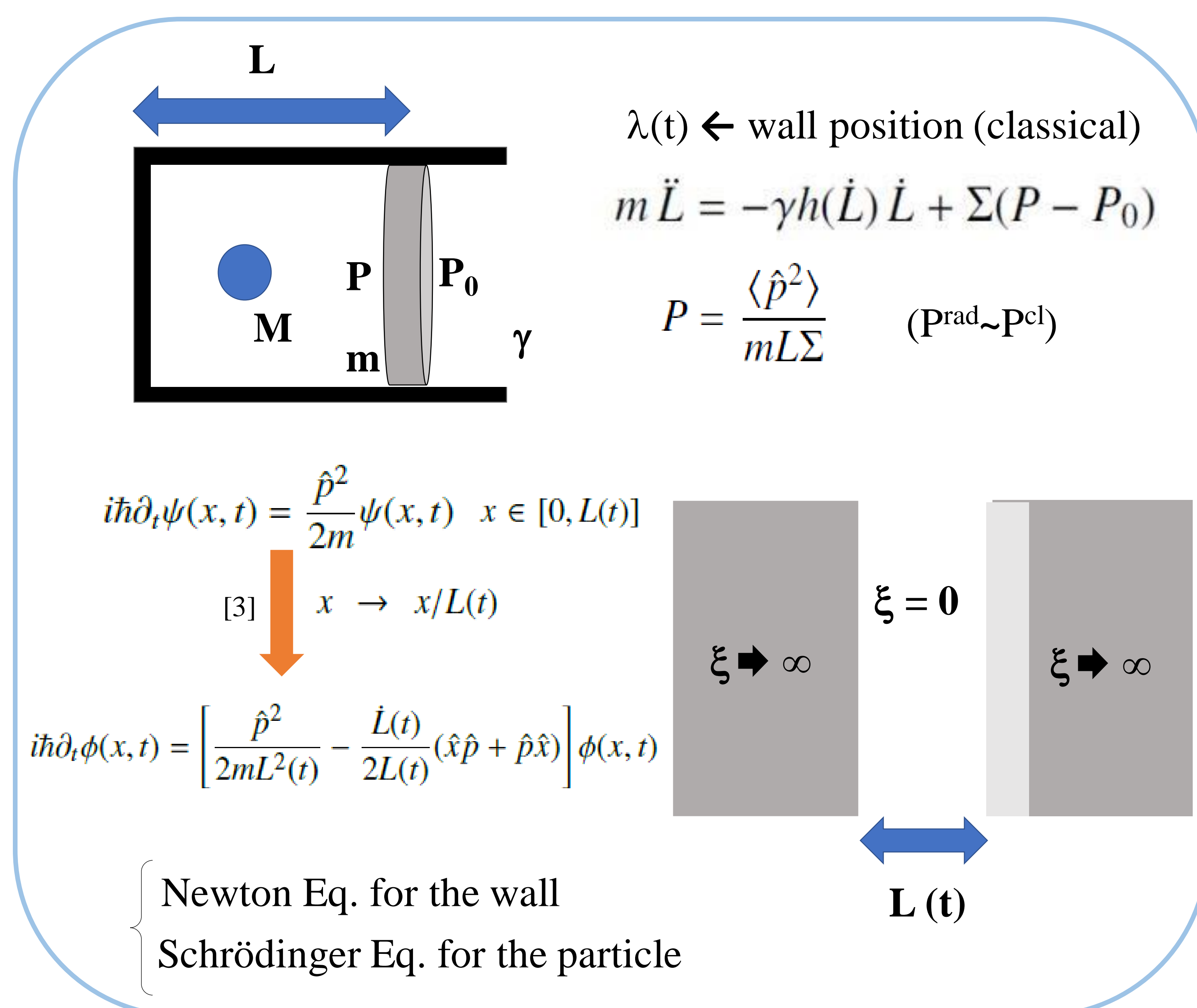
Pierpaolo Sgroi and Mauro Paternostro

Phys. Rev. E 105, 014127 (2022)

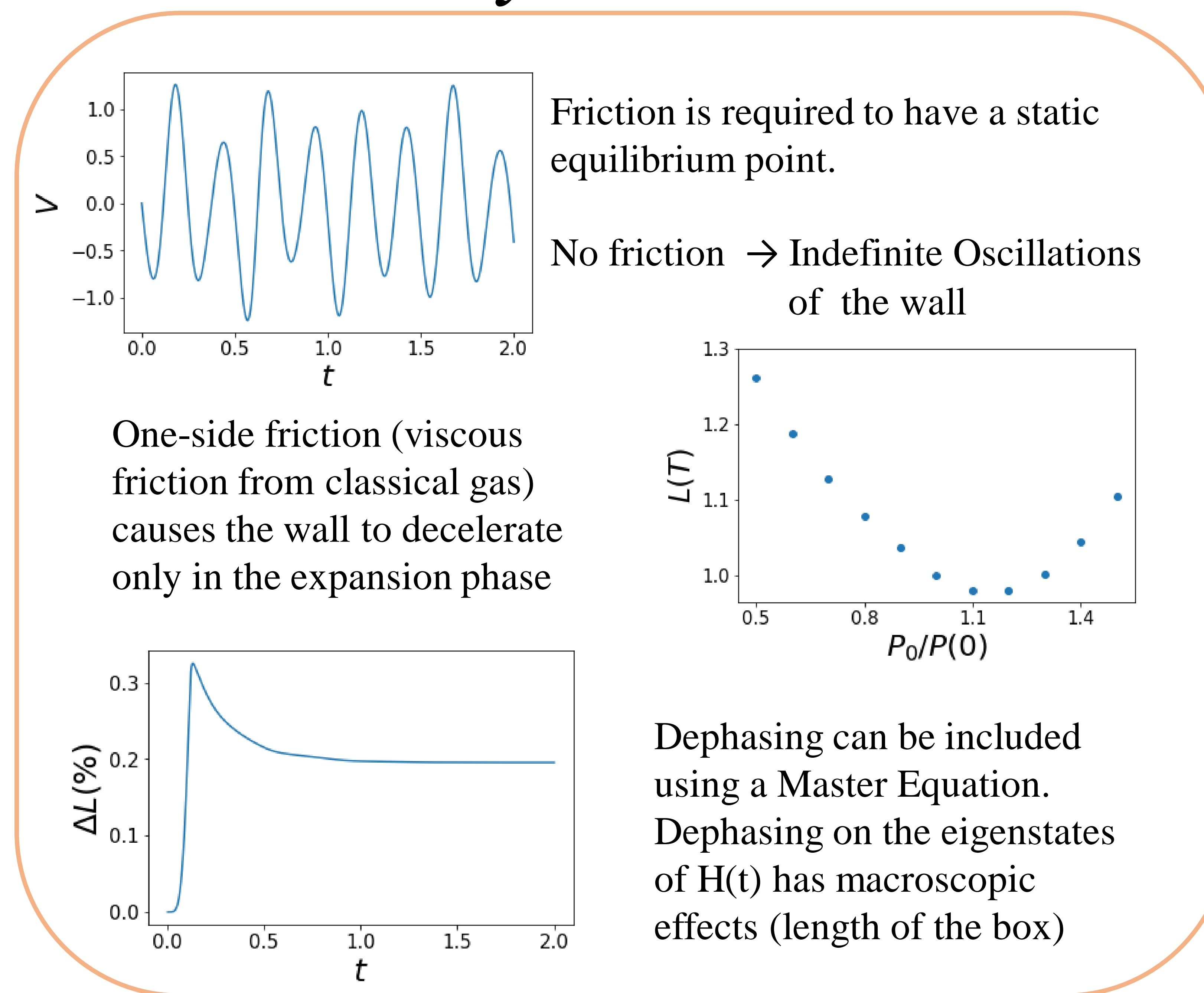
## Motivations



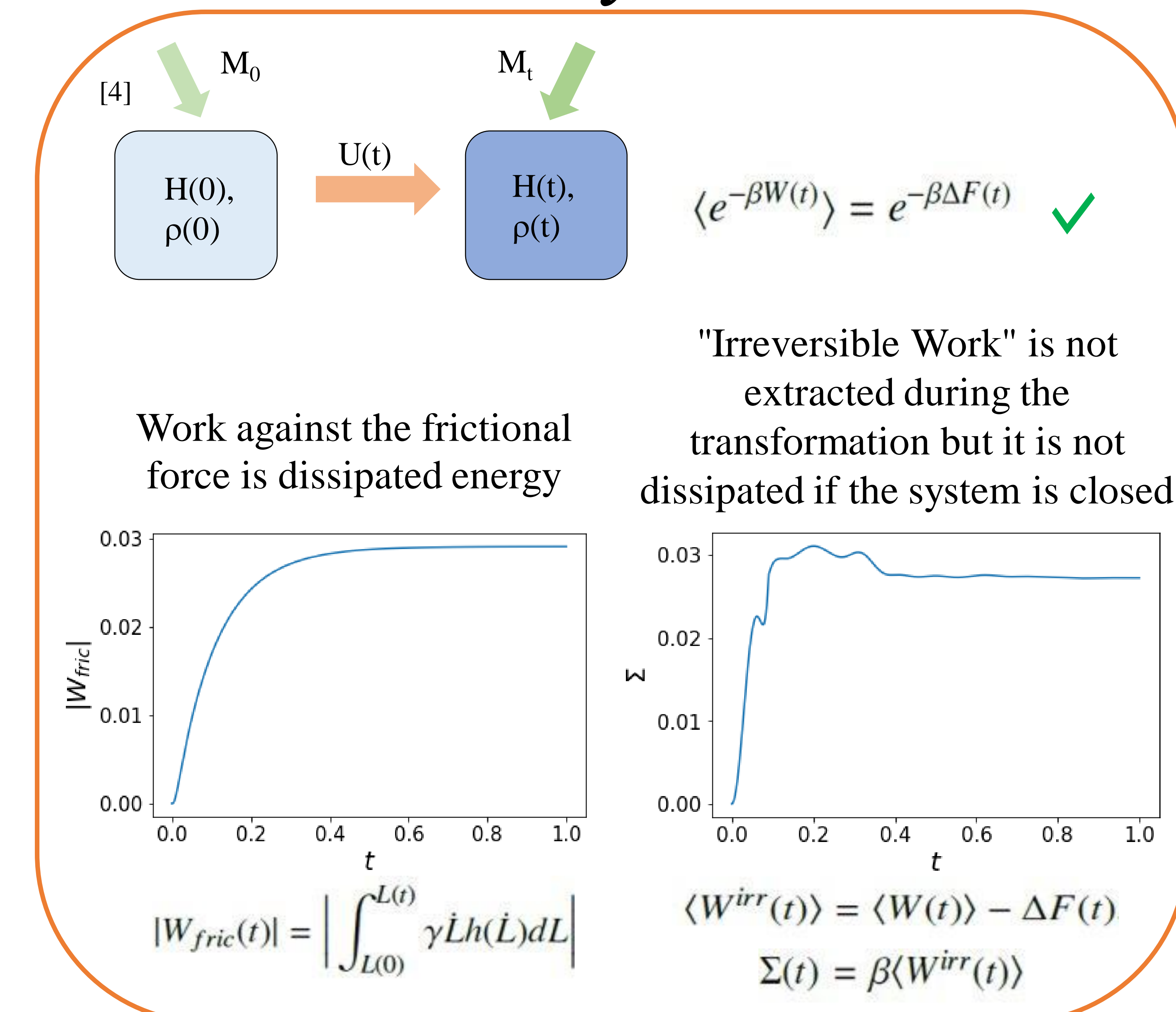
## Model



## Dynamics

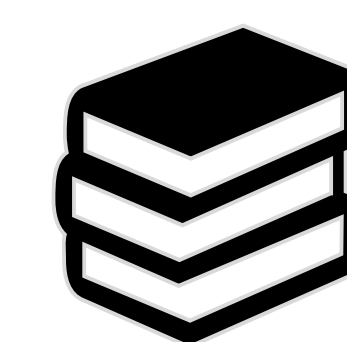


## Thermodynamics



## Considerations

- Work definition does not require energy measurements on the QS (but quantum Jarzynski equality still holds)
- QS-CS interaction, friction and decoherence have to be included phenomenologically
- Fluctuations should be included
- Dephasing probably plays a more important role in real systems



[1] Nat. Comm. 9, 165 (2018)  
[2] Sci. Rep. 4, 6208 (2014)  
[3] J. Phys. A Math. Theor. 46, 365301 (2013)  
[4] Phys. Rev. E 75, 050102 (2007)