

LadHyX Seminar – June 17, 14:00

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Harvesting Fluctuations in Nanopores

Fluctuations are ubiquitous in bio and artificial nanopores. Their dramatic consequences on transport are subtle and highly intricate. Most of the time, fluctuations are seen as a negative feature that impedes for example signal measurements. Yet, biological pores are still able to achieve complex tasks in spite of fluctuations.

To investigate the riddle of fluctuations in nanoporous transport, here we explore two situations where noise plays a critical role. First, we will inspect how surface fluctuations of the pore impact transport within the pore. Second, how fluctuations in the particle number within the pore affect signal measurements.

These results could open new avenues in artificial designs, where fluctuations are harnessed to improve transport and sensing.