

Joint CQSE & NCTS Special Seminar

2024
Oct. 28, Friday

Time: Oct. 28, 2024, 14:30~15:30 pm

Title: KPZ physics and phase transition in continuously monitored one-body systems

Speaker: Tony Jin (Centrale Méditerranée and Institut de Physique de Nice (InPhyNi), Université Côte-d'Azur, Maître de conférence)

Place: NCTS Physics Lecture Hall, 4F, Chee-Chun Leung Cosmology Hall, NTU

Online:

<https://nationaltaiwanuniversity-zbh.my.webex.com/nationaltaiwanuniversity-zbh.my/j.php?MTID=mf648fb4670a7f68014b2bd8b0b348296>

Abstract:

"The advent of the Noisy Intermediate-Scale Quantum (NISQ) era has sparked renewed interest in understanding how measurements influence the dynamics of coherent quantum systems. Surprisingly, recent discoveries have revealed that this interaction can lead to Measurement-Induced Phase Transitions (MiPTs) [1]. In this talk, I will present new insights into MiPTs [2,3], highlighting three key findings: i) MiPTs can occur even in single-body systems. ii) They are not limited to quantum systems and can arise in classical systems. iii) There is an unexpected connection between MiPTs and surface growth processes."

References

[1] Brian Skinner, Jonathan Ruhman, and Adam Nahum Phys. Rev. X 9, 031009

Measurement-Induced Phase Transitions in the Dynamics of Entanglement

[2] Tony Jin and David G. Martin Phys. Rev. Lett. 129, 260603 *Kardar-Parisi-Zhang Physics and Phase Transition in a Classical Single Random Walker under Continuous Measurement*

[3] Tony Jin and David G. Martin Phys. Rev. B 110, L060202 *Measurement-induced phase transition in a single-body tight-binding mode*

CV:

<https://drive.google.com/file/d/1mF1cglwSOXQFyEK6at7uoGq7lr68tjNl/view?usp=sharing>

