Joint CQSE-NCTS-CASTS-CTP Seminar

2021 March 12, Friday

TIME Mar. 12, 2021, 2:30~3:30pm

TITLE New aspects of quantum thermodynamics at strong

system-bath coupling

SPEAKER Dr. Jen-Tsung Hsiang

Center for High Energy and High Field Physics (CHiP), NCU

PLACE <u>Rm104, Chin-Pao Yang Lecture Hall</u>,

CCMS & New Physics Building, NTU

Abstract:

Quantum thermodynamics has been an indispensable component for deeper insight into quantum information, bridged by entropy. In this talk, I will use a very simple Gaussian open system to illustrate ambiguities and new understandings of quantum thermodynamics when the interaction between the system and bath is not vanishingly weak. I will discuss possible extensions beyond the conventional equilibrium quantum thermodynamics.

Biography Brief:

Jen-Tsung Hsiang received his B.S. in Physics from National Taiwan University in 1992 and received his Ph.D. in Physics from Tufts University, Medford, MA, USA in 2004.

He was the visitiong associate professor in Maryland Center of Fundamental Physics, University of Maryland during 2017/9 - 2019/1 and was the research fellow in Center for Field Theory and Particle Physics, Fudan University during 2014/6 - 2017/6.

He is currently the research fellow at Center for High Energy and High Field Physics, National Central University and the visiting scholar at Institute of Physics, Academia Sinica.

His research interests include nonequilibrium quantum field theory, quantum field theory in curved space, and quantum thermodynamics at strong coupling.

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- ▲ Both faculty members and participants are required to wear sanitary masks all the time.
- ▲ All participants and event workers should stay at designated areas and minimize contact at short distances.
- ▲ We collect personal info during covid-19 only for contact tracing purposes.

