



Spacetime Geometry of Black Holes, Wormholes, and Time Machines

Prof. Pei-Ming Ho
(National Taiwan University)

2019 **7/2** 15:30
- 17:00

Large Meeting Room,
2F Welfare and Conference Bldg.
RIKEN Wako Campus



R-CCS R511, Kobe
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Since the advent of General Relativity, people have found many solutions with interesting spacetime geometries. Most notably, the black holes have attracted a lot of attention for their roles in generating gravitational waves, and for inducing the information loss paradox. In this talk, we consider black holes amongst other geometric structures and investigate the subtlety involved in the quantum effect such as Hawking radiation. In this context, we mention wormholes and time machines, and explain how they are conceptually related to the geometry under the horizon of a black hole. There will also be comments on my recent research result about how quantum effect must be large for observers sitting on top of the black hole horizon.

