

## On the edge of quantum black holes

*jeudi 24 novembre 2022 17:30 (15 minutes)*

Black holes are potential gateways to groundbreaking discoveries. Black hole astrophysics has undergone an observational renaissance in the past 6 years. Notably, the observation of gravitational waves has provided an exciting new window to probe as close as possible to the event horizon of observed binary black hole mergers. In this talk, I will provide an overview of the strong motivations for why quantum black holes may be radically different from their classical counterparts in Einstein's General Relativity. Then I will review the observational searches for quantum black holes, focusing on gravitational wave echoes as smoking guns for quantum horizons (or exotic compact objects), which have led to significant recent excitement and activity. Finally, I will discuss the future observational landscape for unraveling the "Quantum Black Holes" in light of the next generation of gravitational wave detectors such as LISA.

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