Black Holes, Neutron Stars, and Gravitational Waves @ Black Sea



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Black holes and wormholes in semiclassical gravity

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A black hole quantum state (Hartle-Hawking, Boulware or Unruh) is usually defined in a fixed background of a classical black hole. In my talk I will discuss the corresponding space-time geometry when the back-reaction is taken into account. The important questions include: does the back-reacted geometry always contain a horizon?; how it depends on the choice of the quantum state? and what is the right choice for the quantum state for the non-physical fields such as ghosts? I will answer these and other questions in the context of a two-dimensional dilaton gravity.

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