



Department of  
Theoretical Physics

# THE QUANTUM SPACETIME SEMINAR SERIES

## Light rings of stationary spacetimes

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Zoom link shall be shared separately



The motion of light is affected by the geometry of the spacetime surrounding a compact object. This led to the existence of a circular null orbit, called the photon sphere. As far as observational implications are concerned, the photon sphere further leads to the existence of an unobservable dark patch around the compact object, known as the shadow. The recent observation of black hole shadow by the Event Horizon telescope may give us valuable information about the physics of strong gravity. In this talk, I will describe several recent results about the existence of a light ring surface around compact objects and how the observation can be used to constrain the possibility of ultracompact black hole mimickers.