

Abstract

We take the audience on a tour of some aspects of gravitational physics and quantum mechanics, from very real, experimentally accessible situations to rather speculative and fantastical astrophysical applications. We start with classical gravitation interacting with a quantum mechanical system and transition to quantum gravity interacting with quantum systems. The theory of quantum gravity is not yet considered complete, however, an effective theory of quantum gravity has been well-understood since the 1970s. We address the question of whether the graviton, the putative quantum of the gravitational field, would in fact be observable.