CUPhysics

Theoretical Physics Seminar

Monday, December 10, 2018 / Pupin Hall Theory Center, 8th Floor / 2:10 PM

"Weak Gravity Conjecture from Unitarity and Causality"

Toshifumi Noumi, Kobe University

The Weak Gravity Conjecture, motivated by string theory and black hole thought experiments, states that gravity is the weakest force. In particular, it claims that there exist theoretical bounds on the charge-to-mass ratio and the axion decay constant in quantum gravity, which provides theoretical constraints on models of inflation and dark matter for example. In this talk, I will first review the Weak Gravity Conjecture and its phenomenological implications. I will then introduce our recent work providing its strong evidence based on unitarity and causality.