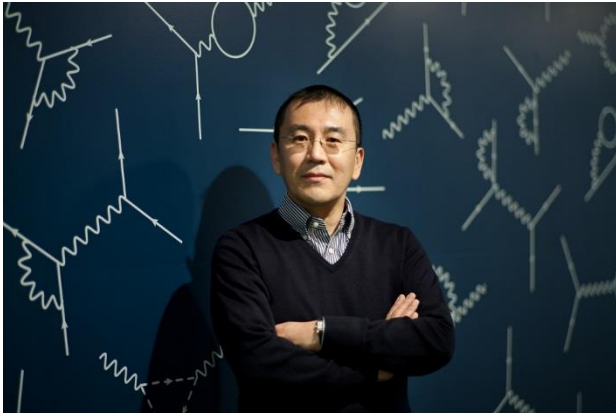




Laboratory for Elementary Particle
Physics (LEPP)

Theory Seminar

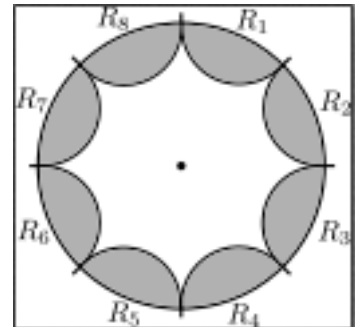
Symmetry of Quantum Gravity and Other Swampland Constraints



Hirosi Ooguri

Caltech

Given an effective theory of gravity, how can one judge whether it is realized as a low energy approximation to a consistent quantum theory with ultra-violet completion, such as string theory? Low energy theories that do not satisfy such consistency conditions are called in the Swampland. I will discuss several constraints -- some have been proven and others are at various stages of conjectures. They include constraints on symmetry (no global symmetry, completeness hypothesis), weak gravity conjectures, positive energy theorems, and constraints on moduli space geometry. I will highlight uses of information theoretical methods in motivating and sometime in deriving these constraints.



Special Date, Time, & Place

Tuesday November 28th, 2017

10:15am

470 Physical Sciences Building