

Physikalisches Kolloquium

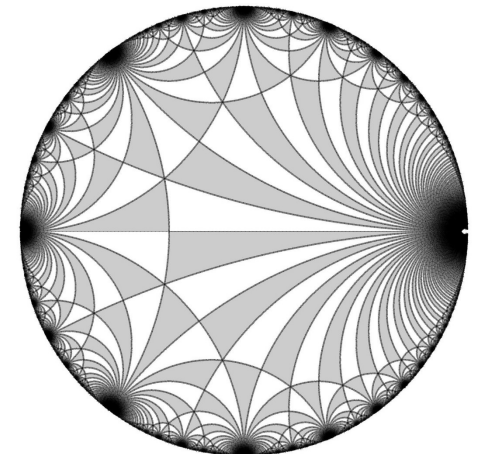
Thursday, 07.07.2022, 16:15, HS 100
In presence

Prof. Dr. Ulf Leonhardt, Weizmann Institute of Science, Israel:

Casimir effect meets the cosmological constant

Abstract

In 1998 astronomers discovered that the expansion of the universe is accelerating. Somehow, something must have made gravity repulsive on cosmological scales. This something was called dark energy; it is described by Einstein's cosmological constant; and it amounts to about 70% of the total mass of the universe. It has been conjectured that the cosmological constant is a form of vacuum energy, but its prediction from quantum field theory has failed by many orders of magnitude. The lecture shows how a theory informed by empirical evidence on Casimir forces does produce the correct order of magnitude and agrees with astronomical data, and how subtle this is.



All of you interested in physics are cordially invited!