



General Relativity and Quantum Cosmology

# The Poincare Conjecture and the Cosmological Constant

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The concept of deformation of Riemannian geometry is reviewed, with applications to gravitation and cosmology. Starting with an analysis of the cosmological constant problem, it is shown that space-times are deformable in the sense of local change of shape. These deformations leave an observable signature in the space-time, characterized by a conserved tensor, associated with a tangent acceleration, defined by the extrinsic curvature of the space-time. In the applications to cosmology, we find that the accelerated expansion of the universe is the observable effect of the deformation, dispensing with the cosmological constant and its problems.

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