Contribution ID: **10** Type: **Parallel-Hadron Structure**

On QCD contribution to vacuum energy

In the framework of a two-loop order calculation for an effective field theory of
scalar, vector and fermion fields interacting with the metric field we show
that for the cosmological constant term which is fixed by the condition of vanishing
vacuum energy, the graviton remains massless and
there exists a self-consistent effective field theory of general relativity defined on a
flat Minkowski background.
Next, using this result we address the issues of fine tuning of the strong interaction contribution to the vacuum energy and the compatibility of chiral symmetry in the light quark sector with the consistency of the effective field theory of general relativity in a flat Minkovski background.

Primary author: GEGELIA, Jambul (R)

Co-author: Prof. MEISSNER, Ulf-G. (Univ. Bonn & FZ Juelich)

Presenter: GEGELIA, Jambul (R)