Contribution ID: **52** Type: **Contributed talk**

Small nonassociative corrections to the SUSY generators and cosmological constant

Tuesday 26 July 2016 15:30 (15 minutes)

Based on (arXiv number)

Summary

We show that the cosmological constant Λ can be considered as a new fundamental constant controlling the smallness of nonassociative effects in physics. We show that in this case there exists a minimal 4D scalar curvature (a unique Lorentz invariant quantity having the dimensions cm^{-2}): $R_{min} \approx \Lambda$. It immediately leads to a very simple explanation for the acceleration of the present Universe: the Universe reaches the minimally possible curvature and has to stay in this state.

Small nonassociative corrections for the SUSY operators $Q_{a,\dot{a}}$ are considered. The smallness is controlled by the ratio of the Planck length and a characteristic length $\ell_0 = \Lambda^{-1/2}$. Corresponding corrections of the momentum operator arising from the anticommutator of the SUSY operators are considered. The momentum operator corrections are defined via the anticommutator of the unperturbed SUSY operators $Q_{a,\dot{a}}$ and nonassociative corrections $Q_{1,a,\dot{a}}$. Choosing different anticommutators, one can obtain either a modified or q – deformed commutator of position x^μ and momentum operators P_ν.

Author: DZHUNUSHALIEV, Vladimir (al-Farabi KazNU)

Presenter: DZHUNUSHALIEV, Vladimir (al-Farabi KazNU)

Session Classification: Dark Energy and Modified Gravity

Track Classification: Dark Energy and Modified Gravity