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A new solution to the strong CP problem and the neutrino masses

Tuesday 7 May 2019 14:00 (15 minutes)

In this talk, I will talk about my recent work on the strong CP problem and the neutrino mass. We present a solution to the strong CP-problem in which the imaginary component of the up quark mass, acquires a very small, but non-vanishing value. This is achieved via a Dirac seesaw mechanism, which is also responsible for the generation of the small neutrino masses. Consistency with the observed values of the up quark mass at low energy is achieved via instanton contributions arising from QCD-like interactions. One attractive feature of the model is the non-vanishing value of the static neutron electric dipole moment strongly related with imaginary component of the up quark mass, which is naturally related with neutrino mass in our scenario. As a result, the natural nEDM in our model is within the reach of the next round of experiments.

Summary

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