



# 5th Force and Quark Mixing

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In a recent article, this author proposed a program for physics beyond the Standard Model, solely based on modifying the twin pillars of fundamental physics by replacing Lorentz structure with Euclidean Jordan algebra while keeping quantum theory. This program predicts not only quarks and leptons but also a short-range 5th fundamental force accompanying gravity.

This 5th force predicts quark mixing and the related CP violation, which in fact was a phenomena observed in labs about fifty years ago. Thus, there are two conflicting theories as of now, the one based on the 5th force which predicts this phenomena and the established Cabibbo-Kobayashi-Maskawa (CKM) theory which was invented to explain this phenomena. In this article a test of these two theories against the recent experimental data is presented. It is found in this test that the CKM theory fails the test, whereas the one based on the 5th force withstands the test well, in both accuracy and precision. As a result, there is compelling evidence now for physics beyond the Standard Model.

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