

Modular invariance and the QCD theta angle

Thursday, 11 April 2024 11:00 (30 minutes)

I will discuss a novel solution to the strong CP problem based on modular invariance. The latter is inherent to toroidal compactifications in string theory. We show that anomaly-free modular symmetry allows for simple effective theories of flavour and CP where (i) the QCD θ -angle vanishes, (ii) the CKM phase is large, (iii) quark and lepton masses and mixings can be reproduced up to order one coefficients. We implement such a general paradigm in supersymmetry or supergravity, with modular forms or functions, with or without heavy coloured states.

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