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Super-Soft CP Violation

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Scenarios assuming an exact CP symmetry in the UV do not suffer quality problems, and are thus interesting alternatives to PQ-based solutions to the Strong CP problem. However, to correctly reproduce the Standard Model quark masses and CP violation these models must feature a non-trivial coincidence between a priori unrelated CP-even and CP-odd mass scales. In this talk we elucidate the origin of this condition and show that it can be naturally addressed by a confining dynamic generated at the Planck scale. This approach is robust and very predictive: it features vector-like quarks below a few 10's of TeV and a dark sector that may lead to interesting cosmological signatures.

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