

## Parity, not Peccei-Quinn, to Solve Strong CP

*Wednesday 14 July 2021 15:00 (15 minutes)*

Parity solutions to the strong CP problem are a compelling alternative to approaches based on Peccei-Quinn symmetry, particularly given the expected violation of global symmetries in a theory of quantum gravity. The most natural of these solutions break parity at a low scale, giving rise to a host of experimentally accessible signals. In this talk, we give an overview of this class of solutions and assess the simplest parity-based solution in light of LHC and flavor constraints. We further highlight prospects for near-future tests at colliders, tabletop experiments, and gravitational wave observatories. The origin of parity breaking and associated gravitational effects provide new avenues for discovery through EDMs and gravity waves, establishing generalized parity as a promising and testable solution to the strong CP problem.

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