

Phenomenology 2023 Symposium



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A Colorful Mirror Solution to the Strong CP Problem

Monday 8 May 2023 16:30 (15 minutes)

I will discuss theories of a complete mirror world with parity (P) solving the strong CP problem. P exchanges the entire Standard Model with its mirror copy and two new mass scales arise: v' where parity and mirror electroweak symmetry are spontaneously broken, and v_3 where the color groups break to the diagonal strong interactions. The strong CP problem is solved even if $v_3 \ll v'$ and the breaking of P gives negligible contributions, starting at three-loop order. I will discuss the energy scales of the model, its minimal particle content and technicolor-like models which can realize the symmetry breaking dynamically and without additional hierarchy problems.

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