

Evanescent operator contribution to radiative correction to QCD theta parameter at two-loop level in the BMHV scheme

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This talk studies a three-loop contribution to the electron EDM induced by CP-violating Yukawa couplings of new $SU(2)_L$ multiplets.

These couplings generate the electroweak Weinberg operator at two loops, whose one-loop insertion can yield an electron EDM larger than the SM contribution even for TeV-scale new particles.

The paper also compares this three-loop effect with the usual two-loop Barr-Zee contribution when the SM Higgs has new Yukawa interactions.

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