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# $\epsilon'/epsilon$ : 2019

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I will review the present status of the CP-violating ratio $\epsilon'/epsilon$ within the SM using first dual Dual QCD (DQCD) framework and confronting it both with Lattice QCD and Chiral Perturbation Theory. DQCD is presently the only framework which allowed to calculate
all $K \to \pi\pi$ hadronic matrix elements of BSM operators which opened the road for the general study of $\epsilon'/epsilon$ in the context of the SM effective theory (SMEFT). One of the highlights of my talk will be a master formula for $\epsilon'/epsilon$ valid in any extension of the SM. This formula should facilitate the search for new physics responsible for the $\epsilon'/epsilon$ anomaly hinted by 2015 results from lattice QCD and DQCD. I hope that by the time of Portoroz 2019 new lattice QCD results, improved isospin breaking corrections and NNLO QCD corrections to QCD penguins will be avaible so that a new estimate of $\epsilon'/epsilon$ within the SM will be possible. If time allows it, links of $\epsilon'/epsilon$ to rare decays $K \to \pi\nu\bar{\nu}$ will be presented.

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