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Charm mixing in the Standard Model

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We investigate the mixing of neutral charmed mesons within the Standard Model (SM), using the framework of Heavy Quark Expansion (HQE). In a recent study, we have argued that a CP phase of the order of 1 per mille to 1 per cent could be present in charm mixing in the SM. Our arguments rely on the enhancement of higher-dimensional terms in the HQE due to a lifting of the severe GIM suppression inherent to the dimension-six result. We propose a factorisation approach to quantify the amount of SU(3) symmetry breaking in dimension 10 and 12 on more solid grounds and report on first numerical results of this study.

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