50 Years of CP Violation

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Unitarity Triangle analysis within and beyond the Standard Model

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Summary:

The Unitarity Triangle (UT) analyses within and beyond the SM are powerful tools to summarise the state of the art and explore the possibilities for future new physics (NP) searches. Given the vast amount of flavour physics results delivered in the last decade by the B factories, the Tevatron and now the LHC, the CKM picture can be now tested with great precision and from the global analysis the most precise SM expectations can be obtained. We present here also the update of the Unitarity Triangle analysis in a scenario beyond the Standard Model. Combining all available experimental and theoretical information on Delta F=2 processes and using a model-independent parametrisation, we extract the allowed NP contributions in the kaon, D, Bd, and Bs sectors. Then in various NP scenarios, we extract the NP lower scale as function of the NP coupling with the SM.

Primary authors:

Co-authors:

Presenter: Prof. MARTINELLI, Guido (SISSA)

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