Contribution ID: **38** Type: **not specified**

Cabibbo-Kobayashi-Maskawa phase from top-bottom quark mass hierarchy in fermion basis, within the standard model

Thursday 4 December 2025 17:40 (20 minutes)

The class of quark-field phase redefinitions for the standard Cabibbo-Kobayashi-Maskawa phenomenological matrix, from the relevant up-bottom, top-down matrix elements to the top-bottom one, produce a phase value consistent with $\pi/2$. This value is derived from standard-model heavy-quark mass restrictions. These stem from the Yukawa and electroweak sector connections through 1) the assumed common Higgs operator, as the boson fields'discrete degrees of freedom can be equivalently represented in terms of the fermions', based on the Lorentz and gauge symmetries; 2) a parallel quantized formulation that uses chiral components, fixing the Higgs (also mass) operator vacuum expectation, as this expansion is tested by the reproduction of the W and Z masses. Resulting favored top-bottom mass hierarchy configurations render that phase value.

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Session Classification: Theory and BSM