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Comment on Reparametrization Invariance of Quark-Lepton Complementarity

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We study the complementarity between quark and lepton mixing angles (QLC), the sum of an angle in quark mixing and the corresponding angle in lepton mixing is $\pi/4$. Experimentally in the standard PDG parametrization, two such relations exist approximately. These QLC relations are accidental which only manifest themselves in the PDG parametrization. We propose reparametrization invariant expressions for the complementarity relations in terms of the magnitude of the elements in the quark and lepton mixing matrices. In the exact QLC limit, it is found that |Vus/Vud||+|Ve2/Ve1|+|Vus/Vud||Ve2/Ve1|=1 and $|Vcb/Vtb|+|V\mu3/V\tau3|+_Vcb/Vtb||V\mu3/V\tau3|=1$. Expressions with deviations from exact complementarity are obtained. Implications of these relations are also discussed.

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