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Possible texture zeros for mass matrices of the quarks and leptons

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Abstract content

We use the permutational symmetry group S(3) as a symmetry of flavour, which leads to a unified treatment of masses and mixings of the quarks and leptons. In this framework all mass matrices of the fermions in the theory have the same form with two texture zeros. Also, with the help of six elements of real matrix representation of S(3) as transformation matrices of similarity classes, we make a classification in equivalence classes of the mass matrices with texture zeros . This classification reduce the number of the non-singulars mass matrices from thirty three down to only eleven independent sets of matrices. For the four equivalence classes of the matrices with two texture zeros, we made a systematic study of the masses and mixing of quarks and leptons, through a unified or hybrid treatment for mass matrices in such equivalence classes.

Summary

Primary author(s) : Mr. GONZALEZ CANALES, Felix (Instituto de Fisica UNAM)

Presenter(s) : Mr. GONZALEZ CANALES, Felix (Instituto de Fisica UNAM)

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