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CKM and PMNS Mixing Matrices from Discrete Subgroups of SU(2)

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I have the only first principles derivation of the PMNS and CKM matrices within the realm of the Standard Model lagrangian. The mixings originate from the generators of three discrete (i.e., finite) binary rotational subgroups of the EW local gauge group SU(2) x U(1) for three lepton families in R<pre>^{3}<code> and four related discrete binary rotation subgroups for four quark families in R<pre>^{4}<code>. For each group two of its three generators match the Pauli generators for SU(2), but the different third generators must act together in a linear superposition to match the third Pauli generator. The results dictate the angles for the PMNS and CKM4 matrices. The CKM matrix can be extracted from CKM4 and assuming unitarity. Consequently, one can predict three lepton families and four quark families. However, a sterile neutrino cannot be eliminated. If the two new quarks in the predicted fourth quark family exist, the SM lagrangian may be an excellent approximation all the way down to the Planck scale. In addition, putting the fourth quark family mass values in the Jarlskog expression increases the CPV by more than 10<pre>^{13}<code>, thereby providing a possible explanation of the BAU. The mathematical details are in the online peer reviewed paper at http://www.ptep-online.com/index_files/2014/PP-38-03.PDF

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