

# Unbroken flavour symmetries vs lepton masses and mixings

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We identify all flavour groups and representations providing an approximate description of lepton masses and mixings in the symmetric limit. Assuming the symmetry constrains the Weinberg operator, neutrinos turn out to be always either anarchical or inverted hierarchical. We investigate whether the flavour theory predictions obtained within the Weinberg operator description are equivalent to those obtained within a full UV theory, using type I seesaw as an example. That is not always the case, and the conditions for the equivalence are found. If the hint of a normal hierarchical neutrino spectrum were confirmed, we would conclude that either the symmetry breaking effects play a primary role in the understanding of neutrino flavour observables, or the UV flavour theory does not provide the same predictions as the effective one.

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