



Contribution ID: 21

Type: **not specified**

## W and Z masses in BSM

*Thursday 2 June 2016 17:15 (15 minutes)*

We present expressions of the Pagels–Stokar type for the masses of the W and Z bosons in terms of the quark and lepton self-energies. By introducing a genuine new term in the gauge boson–fermion–anti-fermion vertex we manage to accomplish three main achievements: First, we show that the similar results existing in literature lead, in general, to a non-symmetric gauge boson mass matrix and we fix this flaw. Second, we consider the case of any number of fermion generations with general mixing. Third, we include in our analysis also an arbitrary number of right-handed neutrinos, together with the left-handed and right-handed neutrino Majorana masses (self-energies). On top of that, we give also a correction to the original Pagels–Stokar formula for the pion decay constant in QCD.

### subject

Theory and BSM

### suggest duration of your talk

15min

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