

# 4 conclusions of B3SM-III

veo

# 1

- We barely convinced PDG that the 4th family is alive and well, but now we need to even convince M. Peskin.
- Light neutrino scenario is still there. Even more generations seem to be allowed – even desirable in some models.
- Increase in Higgs production cross-sections is not a flat  $\times 9$ .

# 2

- However purest form of SM4, ie. SM4 and nothing else is indeed in a corner. We are likely to hear the very final verdict in a couple of months. LHC's finding nothing except SM is quite interesting - perhaps it won't see the light Higgs either - in which case SM3 will die...

# 3

- The things that made a 4th generation appealing are still there. Actually it is quite popular as part of proposed solutions to a list of shortcomings of the SM. It keeps on being a powerful tool to play with.

# 4

- From an experimentalist point of view it is still quite useful as a test model.
- It also is a good initiator for developing tools that test our ways of constraining models.
- Vector-like quarks, unusual decays of  $t'$ ,  $b'$ , etc.