

## Warm-up question 1

Which statements about the standard model are correct?

- A) The Higgs boson can interact with all particles of the SM.
- B) The CP symmetry is slightly violated in the weak interaction.
- C) Parity violation can be observed, but is not part of the Standard Model.
- D) The top quark couples stronger to the Higgs than all other quarks.
- E) The fermion masses are a direct consequence of the symmetry breaking in the SM.

## Warm-up question 2

Which statements about atomic nuclei are correct?

- A) Large, stable nuclei contain more neutrons than protons.
- B) Nuclear fission events free more energy than nuclear fusion events.
- C) The nucleons in the deuteron ( ${}^2\text{H}$ ) are stronger bound than the nucleons in the  ${}^{238}\text{U}$  nucleus
- D) The small mass of the neutrino strongly influences the energy spectrum of  $\beta$  radiation.