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Discreteness in particle masses and parameters of the Standard Model

The tuning effect in particle masses consists of empirical rational relations between them.
Using estimation by CODATA of the ratio between the masses
of the neutron and electron 1838.6836605(11) the shift of neutron mass
161.65(6) keV forms the ratio 8x1.001(1) with the nucleon mass difference. It is a confirmation of the tuning effect [1,2].

Scalar boson mass M_H=126.5 GeV, results of the analysis
of differences of nuclear binding energies ΔE_B [2] and
parameters of the Quark Model originated from the
gluon quark dressing effect are in relations with
masses of the fundamental bosons.
1) M_q=441 MeV and $M_H/18{\cdot}16$=436 MeV
were compared with $M_Z/(\mathrm{L}=13{\cdot}16-1)$=440.5 MeV;
2) The second parameter of the CQM $M_q''=m_\rho/2$=387.7(2) MeV was compared
with $M_W/(\mathrm{L}=13{\cdot}16-1)$=388.4 MeV [2].
Other particle masses, f_π
and M_H, M_Z, M_W
are compared with integer numbers (k) of the common period δ=16m_e
equal to the doubled value of the difference between the mass splitting of the
pion.
The origin of this discreteness and its connection with the symmetries will be discussed.

1. S. Sukhoruchkin, Nucl. Phys. B 234C (2013) 241.
2. S. Sukhoruchkin, Nucl. Phys. B 258-259C (2015) 268.

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