THE SEVEN HIGGS BOSONS AND THE HEISENBERG UNCERTAINTY PRINCIPLE EXTENDED TO D DIMENSIONS

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Abstract. The proof of the existence of seven dimensions compacted in circles: the principle of uncertainty of Heisenberg extended to d dimensions; Allows us to obtain the masses of the seven Higgs bosons, including the known empirically (125.0901 GeV = mh (1)); And theorize the calculation of the mass of the boson stop quark (745 GeV)

1. The Heisenberg uncertainty principle extended to d dimensions

The well-known Heisenberg uncertainty principle says that for any function $f \in L^2(\mathbb{R}^n)$ with $|f|_2 = 1:

$$\int_{\mathbb{R}^n} |x \cdot f(x)|^2 dx \cdot \int_{\mathbb{R}^n} |\gamma \cdot \hat{f}(\gamma)|^2 d\gamma \geq \frac{n^2}{4 \cdot (2\pi)^{n-1}} \cdot d \cdot \frac{\Delta p}{\Delta x} \cdot \Delta p \cdot \Delta x \cdot \frac{\Delta x}{\Delta p} \geq \frac{\sqrt{4 \cdot (2\pi)^{d-1}}}{d} \quad (1)$$

For one, dimension, d = 1; The known quantum value is obtained:

$$\frac{\Delta x}{\Delta p} \cdot \frac{\Delta p}{\Delta x} \geq \frac{\sqrt{4 \cdot (2\pi)^{d-1}}}{\frac{\Delta x}{\Delta p} \cdot \frac{\Delta p}{\Delta x}} \rightarrow \frac{(\Delta x)_{d=1} \cdot (\Delta p)_{d=1}}{\hbar} \geq \frac{1}{2}$$

2. The seven dimensions compacted in circles and the seven Higgs bosons

The Heisenberg uncertainty principle for seven dimensions:

$$\frac{\Delta x}{\Delta p} \cdot \frac{\Delta p}{\Delta x} \geq \frac{\sqrt{4 \cdot (2\pi)^{d-1}}}{\frac{\Delta x}{\Delta p} \cdot \frac{\Delta p}{\Delta x}} \rightarrow \frac{(\Delta x)_{d=7} \cdot (\Delta p)_{d=7}}{\hbar} \geq \frac{\sqrt{4 \cdot (2\pi)^{7-1}}}{7^2} \quad (2)$$

The current and less massive Higgs boson (125.0901 GeV):

Matrix of the seven Higgs bosons; Seven compacted dimensions : $7^d$

$$mh1 = m_e \cdot 4 \cdot (2\pi) \cdot \sin \beta = 125.0758 \text{ GeV} \quad (3)$$
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\[ m_e = \text{electron mass} \ ; \ \beta = \text{Angle supersymmetry}. \] Entropic uncertainty seven dimensions:

\[ \frac{7 \cdot e}{2} \]

\[ \arctan(\beta) = \frac{7 \cdot e}{2} \rightarrow \beta \simeq 84^\circ \]

2.1. The other six Higgs bosons. Quantized Excitations of the Boson mh1:

\[ mh(n) = n \cdot m_e \cdot 4 \cdot (2\pi)^6 \cdot \sin \beta \] (4)

\[ mh(2) = 2 \cdot m_e \cdot 4 \cdot (2\pi)^6 \cdot \sin \beta = 250.15 \ GeV \] (5)

\[ mh(3) = 3 \cdot m_e \cdot 4 \cdot (2\pi)^6 \cdot \sin \beta = 375.22 \ GeV \] (6)

\[ mh(4) = 4 \cdot m_e \cdot 4 \cdot (2\pi)^6 \cdot \sin \beta = 500.3 \ GeV \] (7)

\[ mh(5) = 5 \cdot m_e \cdot 4 \cdot (2\pi)^6 \cdot \sin \beta = 625.37 \ GeV \] (8)

\[ mh(6) = 6 \cdot m_e \cdot 4 \cdot (2\pi)^6 \cdot \sin \beta = 750.45 \ GeV \] (9)

\[ mh(7) = 7 \cdot m_e \cdot 4 \cdot (2\pi)^6 \cdot \sin \beta = 875.53 \ GeV \] (10)

3. The mass of the stop quark

\[ m_{\tilde{t}} = m_e \cdot 4 \cdot (2\pi)^{8-1} \cdot \sin \beta \cdot \cos^2 \theta_c = 745.86 \ GeV \] (11)

Matrix of the eight gluons: \[ 8^2 \]

\[ \theta_c = \theta_{c12} = 13.04^\circ = \text{Main Cabibbo angle}. \]

Mixing quarks

Thank God Almighty, creator of all things. And our Savior: Jesus Christ

References


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