224(6): Refutation of Fundamental Particle Collision Theory.

This refutation is based on UFT 160 on the ECE site www.aias.us. In the notation of that paper it considers the general case of scattering of an incoming particle of mass m_1 from a static particle of mass m_2. The energy conservation equation is:

$$\gamma m_1 c^2 + m_2 c^2 = \gamma' m_1 c^2 + \gamma'' m c^2 \quad -(1)$$

where: $\mathcal{E}\omega = \gamma m_1 c^2$, $\mathcal{E}\omega' = \gamma' m_1 c^2$, $\mathcal{E}\omega'' = \gamma'' m c^2$ $\quad -(2)$

so $$m_2 = \frac{\mathcal{E}}{c^2}\left(\omega' + \omega'' - \omega\right). \quad -(3)$$

The equation of conservation of momentum is:

$$\underline{p} = \underline{p}' + \underline{p}'' \quad -(4)$$

It follows that:

$$p^2 = p'^2 + p''^2 + 2pp''\cos\theta \quad -(5)$$

where: $\underline{p} = \mathcal{E}\underline{\kappa}$, $\underline{p}' = \mathcal{E}\underline{\kappa}'$, $\underline{p}'' = \mathcal{E}\underline{\kappa}''$ $\quad -(6)$

so $$\kappa''^2 = \kappa^2 + \kappa'^2 - 2\kappa'\kappa''\cos\theta. \quad -(7)$$

Here: $\mathcal{E}\underline{\kappa} = \gamma m_1 \underline{v}$, $\mathcal{E}\underline{\kappa}' = \gamma' m_1 \underline{v}'$, $\quad -(8)$

$\mathcal{E}\underline{\kappa}'' = \gamma'' m_2 \underline{v}''$.

2) It follows that:

$$x_2 = \frac{m_2 c^2}{\hbar} = \omega' + \omega'' - \omega \qquad -(9)$$

$$= \frac{1}{\omega - \omega'}\left(\omega\omega' - \left(x_1^2 + \left(\omega^2 - x_1^2\right)^{1/2}\left(\omega'^2 - x_1^2\right)^{1/2}\cos\theta\right)\right)$$

where $x_1 = m_1 c^2 / \hbar$. $-(10)$

In the limit: $m_1 \to 0$ $-(11)$

eq. (9) reduces to:

$$x_2 = \frac{\omega\omega'}{\omega - \omega'}\left(1 - \cos\theta\right). \qquad -(12)$$

which is the textbook result for Compton scattering from a "massless" particle.

As shown in Section 3 of QFT160, the correct consideration of a non-zero mass m_1 leads to eq. (9), which produces wildly incorrect results.

This is another refutation of the Higgs Boson theory because the fundamental particle theory is incorrect.
