326(9): Development of the Type Three Quantization Scheme.

This scheme is constructed from:

$$E^2 = p^2c^2 + m^2c^4 \quad -(1)$$

so

$$(E - pc)(E + pc) = m^2c^4 \quad -(2)$$

and

$$E = pc + \frac{m^2c^4}{E + pc} \quad -(3)$$

Here

$$E = \gamma mc^2 = \hbar\omega \quad -(4)$$

and

$$\underline{p} = \gamma m\underline{v}_0 = \hbar\underline{\kappa} \quad -(5)$$

in the notation of previous papers and notes. The total kinetic energy E can be expressed as

$$E = H - U \quad -(6)$$

$$= H + \mathcal{L} + \frac{mc^2}{\gamma}$$

where the lagrangian is:

$$\mathcal{L} = -\frac{mc^2}{\gamma} - U \quad -(7)$$

Many different types of schemes can be developed. For example, from eqs. (3) to (5)

2)

$$\hbar\omega = \hbar\kappa c + \frac{m^2 c^4}{\gamma m c^2 + \gamma m v_0 c} \quad -(8)$$

So:

$$\omega = \kappa c + \frac{1}{\hbar}\frac{m^2 c^4}{\gamma m c^2 (c + v_0)} \quad -(9)$$

$$\boxed{\omega = \kappa c + \frac{1}{\hbar}\frac{m c^2}{\gamma (c + v_0)}} \quad -(10)$$

where

$$\gamma = \left(1 - \frac{v_0^2}{c^2}\right)^{-1/2} \quad -(11)$$

The relativistic velocity is the measurable velocity and is defined by

$$v = \gamma v_0 \quad -(12)$$

So the relativistic velocity and the observer frame velocity v_0 can be measured experimentally by measuring ω and κ experimentally.