DEFINITIVE PROOF EIGHT

In general relativity, a particle at rest has angular momentum.

In special general relativity, the angular velocity of a particle of mass \( m \) with \( r \) is:

\[ \omega = \frac{L}{E} \frac{2}{m(r)^2} \]  \hspace{1cm} (1)

However, \( m(r) = \frac{E}{nc^2} \left( 1 + \frac{E}{mc^2} \right) \),  \hspace{1cm} (2)

so

\[ \omega = \frac{L}{mr^2} \left( 1 + \frac{E}{mc^2} \right)^{-1} \]  \hspace{1cm} (3)

The angular momentum is:

\[ L = mr^2 \omega \left( 1 + \frac{E}{mc^2} \right) \]  \hspace{1cm} (4)

which is a constant multiplied by a classical non-relativistic result:

\[ L_0 = mr^2 \omega \]  \hspace{1cm} (5)

So in special general relativity, the angular momentum is still non-relativistic, a reduction to absurdity. For a particle at rest:

\[ E = mc^2 \]  \hspace{1cm} (6)

but for eq. (4):

\[ L = 2mr^2 \omega \]  \hspace{1cm} (7)

meaning that a particle at rest still has finite angular momentum, a reduction to absurdity.