
M
m
m
m

$$E = \gamma_L M_0 c^2$$

$$\gamma_L = 3$$

$$\gamma = \frac{1}{\sqrt{1 - \frac{v^2}{c^2}}}$$

$$\frac{1}{\gamma^2} = 1 - \frac{v^2}{c^2}$$

$$\frac{v^2}{c^2} = 1 - \frac{1}{\gamma^2}$$

$$\beta^2 = \square$$

$$\beta^2 = \frac{\gamma^2 - 1}{\gamma^2}$$

$$p = \gamma M_0 v$$

$$E_{1L} = \sqrt{p_{1L}^2 c^2 + m_0^2 c^4}$$

$$E_{2L} = \sqrt{p_{2L}^2 c^2 + m_0^2 c^4}$$

$$3M_0c^2 = \sqrt{\qquad} + \sqrt{\qquad}$$

$$E^2 = p^2 c^2 + m_0^2 c^4$$

$$M_0 c^2 = 2 \gamma_c m_0 c^2$$