Relativistic Momentum

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$$p = \frac{mv}{\sqrt{1 - \dfrac{v^2}{c^2}}}$$

Note: for v<<c   p=mv

Note: for v=c   p=infinity

Relativistic Energy

$$E = \frac{mc^2}{\sqrt{1 - \dfrac{v^2}{c^2}}}$$

Note: for v=0   E = mc^2

Note: for v<<c E = mc^2 + ½ mv^2

Note: for v=c   E = infinity (if m is not 0)

Objects with mass <u>always</u> have v<c!