Abstract Submitted
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Density Increasing in Special Theory of Relativity FLORENTIN SMARANDACHE, University of New Mexico — According to the Special Theory of Relativity the mass of a moving object increases with the speed of the object with the factor $F(v) = \frac{1}{\sqrt{1-\frac{v^2}{c^2}}}$, but what really increases: the object density, the object volume, or both? Because *Mass* = *Volume* × *Density* for homogeneous bodies, and since the object length decreases (in the direction of movement), then should we understand that the object volume also decreases? The volume decreases with the contraction factor $C(v) = \sqrt{1-\frac{v^2}{c^2}}$, hence the density increases with$F^2(v)$ Then the *Mass-Increasing Factor* is equal to $F(v)$ Yet, Einstein himself disliked the concept of relativistic mass given by the formula:

$$M(v) = \frac{m}{\sqrt{1-\frac{v^2}{c^2}}}$$

where m = rest mass, and M = relativistic mass of the object moving at speed v.

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