

Abstract Submitted
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Elasticity of Relativistic Rigid Bodies? FLORENTIN SMARANDACHE, University of New Mexico — In the classical Twin Paradox, according to the Special Theory of Relativity, when the traveling twin blasts off from the Earth to a relative velocity

$$v = \frac{\sqrt{3}}{2}c$$

with respect to the Earth, his measuring stick and other physical objects in the direction of relative motion shrink to half their lengths. How is that possible in the real physical world to have let's say a rigid rocket shrinking to half and then later elongated back to normal as an elastic material when it stops? What is the explanation for the traveler's measuring stick and other physical objects, in effect, return to the same length to their original length in the Stay-At-Home, but there is no record of their having shrunk? If it's a rigid (not elastic) object, how can it shrink and then elongate back to normal? It might get broken in such situation.

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