

Abstract Submitted  
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**Mass-Energy Relationship Must Include Vibrational And Rotational Kinetic Energy Factors As Well As Potential Energy Factors**  
STEWART BREKKE, Northeastern Illinois University (former grad student) — Einstein originally proposed in his Special Theory of Relativity that at low speeds  $E_0 = m_0c^2 + 1/2m_0v^2$ . However, all kinetic and potential energies must be included in total energy consideration. A mass may also be rotating and/or vibrating as well and we must add the value of these kinetic energies to our calculations. Further, the values of all potential energies such as gravitational and electromagnetic potential energies must be added to the calculations for total energy consideration. If  $[1/2I\omega^2]$  is the rotational kinetic energy expression. Also, if  $[1/2kx^2]$  is a vibrational kinetic expression, we must add them. And if  $[E_G = Gm_1m_2/r]$  and  $[E_E = kQ_1Q_2/r]$  are the equations for gravitational and electromagnetic potential energies respectively, the proper equation for the mass-energy equivalence at low speed must be corrected to:  $[E_0 = m_0c^2 + 1/2m_0v^2 + 1/2I\omega^2 + 1/2kx^2 + Gm_1m_2/r + kQ_1Q_2/r]$ .

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