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Total Relativistic Kinetic Energy Must Include Rotational and Vbrational as Well As Linear Kinetic Energy STEWART BREKKE, Northeastern Illinois University (former grad student) — All masses will have no motion, linear, vibrational and/or rotational kinetic energy singly/and or in some combination. Therefore, the mass-energy equivalence must include these factors. The basic equation for E-zero is therfore $E_0 = m_0c^2 + 1/2m_0v^2 + 1/2I\omega^2 + 1/2kx^2$. Since $K = (m - m_0)c^2$, the total kinetic energy of a relativistic mass must therefore be described in the following manner. $K = mc^2 + mv^2 + 1/2I_1\omega^2 + 1/2k_1x_1^2 - m_0c^2 - 1/2m_0v^2 - 1/2I_2\omega^2 - 1/2k_2x_2^2$.

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