## Abstract Submitted for the DNP19 Meeting of The American Physical Society

Every Fundamental Particle, Nucleus, Atom, Molecule, Compound and/or Ion or Heavenly Bodies Exhibit No Motion, Linear, Rotational and/or Vibrational Motion, Singly or in Some Combination When Created Which May Be Modified By External Forces: A Natural Law STEWART BREKKE, Northeastern Illinois University — All masses and mass groups, when created, will have due to excess energy when created, Linear, Rotational, and/or Vibrational motion, singly or in some combination, all, some or none, may be altered by external forces. The basic energy equation for any newly created mass is  $E = m_0 c^2 + 1/2m_0 v^2 + 1/2I\omega^2 + 1/2kx^2$ .  $I\omega^2$  is the rotational kinetic energy and the factor  $kx^2$  is the kinetic energy of a simple harmonic oscillator although any type of oscillator may result from excess energy of the mass's creation. Since all masses and mass groups obey this behavior apparently everywhere in space. for example all galaxies, stars, planets and satellites have been found to be capable of moving linearly (orbital motion is linear motion under the influence of an external force field such as gravitational force), rotating and vibrating as are all nuclei, molecules, ions and compounds, are capable of moving linearly, rotating and/or vibrating singly or in some combination on earth, this behavior can be considered a natural law describing the type of motion possibilities.

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