

**Ali F. AbuTaha**  
*Dynamic Transients, Inc.*

Manassas, VA 20112

TELFAX: 571-292-2508  
e-mail: aabutaha@aol.com

**UNIQUE FEATURES OF THE SELF-MOTION MECHANISM**

<b>Self-Motion Mechanism</b>	<b>Conventional Mechanisms</b>
<b>1. Energy is converted to motion in one step (motors, oscillations, motion).</b>	<b>Energy is converted to motion in several steps (motors, gears, shafts, linkages, ...)</b>
<b>2. Structures and payloads can be made to contribute to forward momentum.</b>	<b>Structures and payloads retard forward motion.</b>
<b>3. Power plant is fraction of the total weight.</b>	<b>Power plant is sizable fraction of the total weight.</b>
<b>4. Max speed is reached nearly instantly.</b>	<b>Maximum speed takes time.</b>
<b>5. Diverse maneuverability: Motion can be changed instantly to any desired direction by changing frequency, phase, polarity, geometry, location of center of gravity, etc.</b>	<b>Restricted maneuverability – imposed by range of wheel turns, inertia, etc.</b>
<b>6. Motion is orthogonal to applied forces.</b>	<b>Motion is in the direction of applied force(s).</b>
<b>7. Mechanism adaptable to life-like motions.</b>	<b>Not adaptable to life-like motions.</b>
<b>8. Mechanism emulates brain-muscle system.</b>	<b>Cannot emulate the brain-muscle system.</b>
<b>9. Mechanical pulses simulate neural activity to induce movement of the human body.</b>	<b>Mechanisms are not applicable to living motions.</b>
<b>10. Quantized steps correlate to quantum mechanics.</b>	<b>No correlation to quantum mechanics.</b>
<b>11. Mechanism gives better understanding of the motions of animals, fish and birds.</b>	<b>Limited applicability.</b>
<b>12. Mechanism is applicable to study of biology, physiology, neurology, psychology, and medicine.</b>	<b>Limited applicability.</b>
<b>13. Mechanism vital to evaluate and treat motion disorder diseases, and to actuate artificial limbs.</b>	<b>Limited applicability.</b>
<b>14. Laws of self-motion can harmonize classical, quantum and electromagnetic physics.</b>	