Abstract Submitted for the DAMOP08 Meeting of The American Physical Society

The Law of Photon Interaction With Matter STEWART BREKKE, Chicago Public Schools (retired) — When a photon interacts with a quantity of matter, there will be an increase in the linear, rotation and/or vibrational motion of that quantity of matter and/or emit a photon, singly or in some combination. In the Photoelectric Effect the incident photon may make the surface electron move linearly, change the spin and/or increase the vibration of the surface electron. Similarly, in the Compton effect for all kinds of particles, nuclei and molecules, the incident photon changes the linear, curvilinear, spin and/or vibrational mode of the particle, nucleus or molecule. For larger quantities of matter the incident photons at minimum may increase the molecules, ions, nuclei and/or subatomic particles such as electrons and quarks vibrations, thereby heating the quantity of matter and may increase their linear and/or orbital motions in the body of matter itself. In this manner the larger quantity of matter may move in some way.

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Date submitted: 03 Apr 2008

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