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## Basic Research Press

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Starkville, MS 39759

An Open Letter to  
All Physical Scientists

Greetings:

I have just completed the book *Photons and the Elementary Particles* based on the Kinetic Particle Theory of Physics. This book develops practical applications of my earlier book (published in 2004) presenting a fundamental understanding of how the universe works. This earlier book is entitled *The Grand Unified Theory of Physics*. Both of these books can be obtained from Basic Research Press, Amazon, Barnes and Noble, or your local bookstore for \$29.95.

In the photons book, we were able to derive a number of interesting phenomena using the results of the earlier book.

In the Kinetic Particle Theory of Physics, the concept of a rest frame is central. Each matter particle has its minimum mass for that frame. Thus, a matter particle accelerated on the earth will have its largest mass growth accelerated in the direction of the earth's velocity. The minimum mass growth occurs when accelerated in the opposite direction. Knowing measurements of mass growth in all directions gives means for determining the magnitude and direction of the Earth's absolute velocity. From some very limited data, we have estimated that the Earth's speed may be close to  $0.05c$ .

The speed of light measures the same in all translating reference systems. Speed is the ratio of a measured matter length divided by a measured amount of *clock* turning. A moving frame, in contrast to an absolute rest frame, has shortened lengths and slower turning clocks. The ratio of length to clock angular displacement is independent of the frame to which they are attached. Thus, the speed of a given photon measures the same in all reference systems.

A photon is a cloud of ether particles which are spread uniformly along its complete wavelength. The amplitude of the wave is the wave length  $\lambda$  divided by  $2\pi$ . The particles which will make up a photon are stored in the atom around an approximate circular ring with a radius  $\lambda/(2\pi)$ . When atoms on the surface of matter reverse their vibrational velocity, they emit a photon. The photon is equally likely to emit over  $4\pi$  steradians of direction, and if it intercepts

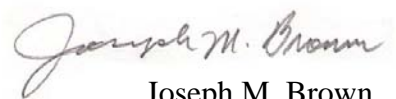
another atom's sphere of radius  $\lambda/(2\pi)$ , then this other atom will capture it. Otherwise the photon will escape (i.e., be *radiated*). This mechanism results in a predicted radiation rate which is close to the Stefan-Boltzmann prediction. However, the radiation rate depends on absolute temperature to the  $7/2$  power rather than to the fourth power. This mechanism also provides a prediction of the value of temperature for superconductivity which depends upon the type of matter radiating.

Light is all transmitted through glass one wave length thick. For glass one half wave length thick, 16% is reflected. Knowing the structure of the photon gives the prediction that the reflected percentage is  $1/(2\pi) = 0.159$ , which is close to the observed value.

When a photon is emitted from an atom, the angular momentum of the photon and atom as a system remains constant as the photon translates. In order for the angular momentum to remain constant requires that the photon lose one of its constituent particles for each wave length of travel. Thus, the photon wave length increases for each wave length of travel. More distant stars are noted to have a *red-shift*, compared to closer stars. Knowing the amount of red-shift makes it possible to compute the basic ether particle mass (which is  $\approx 10^{-66}$ kg).

These results given in *Photons and the Elementary Particles* are indicative of the power of the Kinetic Particle Theory of Physics. *The Grand Unified Theory of Physics* provided the basis for the extremely useful applications in *Photons and the Elementary Particles*. For more information, visit [basicresearchpress.com](http://basicresearchpress.com).

Respectfully Yours,



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