

1. Schrodinger's Equation (S.E.) was originally created to derive the wavelengths of light emitted by excited hydrogen: Four lines in the optical and many lines in the ultra violet. Hydrogen is placed in a sealed glass tube and electrically excited until it gives off a red glow. The red light is passed through a spectral grating and 4 lines red, yellow, green, blue appear. However to generate the yellow, green and blue lines, the glass through which the red glow passes must be doped with the atoms Li, Ca, Mg. Without the doped atoms, only the red line appears. Consequently SE creates a mathematical model for an atom that physically does not exist and therefore (SE) does not represent physical reality.

2. In order to measure the wave length of light, one uses a spectral grating i.e. a smooth piece of plain glass thinly coated with Al upon which parallel lines a distance  $d$  apart are scratched with a diamond tipped needle on a ruling engine. Assuming light is a self-interfering wave, one can derive Bragg's law:  $\lambda = d \sin \theta$  where  $\lambda$  is the wavelength,  $d$  as above and  $\theta$  is the angle through which light is diffracted. If one now makes a second grating with parallel lines a distance  $D$  apart using the same diamond tipped needle as above and shines the same monochromatic light source on both gratings, and now assuming Bragg's law is correct:  $\lambda = d \sin \theta = D \sin \phi$  where angle  $\theta \neq \phi$ . However experimentally  $\theta = \phi$  and therefore Bragg's Law is experimentally false. This proves that e.m. radiation is not a wave and that the most important equation of quantum mechanics  $E = nh\nu$ , is physically false and does not represent physical reality.

My model for e.m. radiation is that it consists of small mass photons and I have written a text on the interaction properties of small mass photons with liquids, solids and gasses including the interaction with a spectroscopic grid. The Text is found on my website [www.jmkingsleyiii.info](http://www.jmkingsleyiii.info)

3. In order to solve SE for the energy states of any atom, the following mathematical technique was developed. By using ANY twice differentiable function  $F = F(x, t)$  in  $x$  and  $t$ , the given interaction Hamiltonian  $H$ , and Schrodinger's Equation, there exists an infinite set of orthonormal functions  $\phi_n(x, t)$   $n=1, 2, \dots$  such that by expressing  $\Psi$  in terms of the orthonormal series,  $\Psi = \sum_{n=1}^{\infty} a_n \phi_n$ , one can solve SE for  $\Psi$ , (i.e. for the  $a_n$ ) such that  $\Psi$  is a solution of Schrodinger's Equation and  $\Psi$  converges in the mean to  $F$ . Thus any twice differentiable function  $F$  can be shown to be a solution of Schrodinger's Equation modulo convergence in the mean. This is thus a spurious mathematical technique. I myself have created the "kit" for tritium, using parabolic coordinates.

As far as I know, how to determine the orthonormal series for a given  $H$  and  $F$  using Schrodinger's Equation was first presented by its originator at Bletchley Park, England on December 28, 1942.

4.  $\Psi$ , the unknown in SE is a complex number. Complex numbers have no units, cannot be physically measured and do not represent physical reality. As a complex number,  $\Psi$  therefore has no measurable units, cannot be experimentally determined and does not represent physical reality. The absolute value squared  $|\Psi|^2$  is given a

physical interpretation e.g. as a probability e.g. of finding an electron at distance  $r$  at time  $t$  from the nucleus to which it is bound. However, one is now deriving physical reality i.e.  $|\Psi|^2$  from non physical reality i.e.  $\Psi$ . That is absolute nonsense as will be exemplified below.

$\Psi$  exists inside one's cranium but does not exist outside one's cranium in the sense that  $\Psi$  has no physical representation and cannot be experimentally determined.

Importantly, any equation that has an unknown that has no units and assuming it has a solution; that solution must also have no units. Consequently by varying the coefficients signed or unsigned, one can vary the unit less solution e.g.  $\Psi$  and derive whatever value of  $|\Psi|^2$  one wishes.

Consider the counter example  $F=ma$ . Every term has an operational definition and every term has units and every term is experimentally verifiable. One cannot vary any of the terms to derive whatever value of  $F$  one wishes.