

Planck Mass is Wrong: Recalculation of Quantum Measurement

【 Abstract 】 Planck mass, length and time calculated by Planck constant are not unified in magnitude. According to my quantum model and formula system, I recalculate quantum mass, length and time, and achieve the unify of quantum measurement. Here we show that formula system of classical physics is wrong.

Planck constant is the basis of quantum physics. Planck constant and other ones are used to describe quantum. Planck length is about 1.62×10^{-35} meters and is consider as the shortest length in the world. Planck time is about 5.40×10^{-43} seconds and is consider as the shortest time. But Planck mass is special and is about 2.18×10^{-8} kg which is too large. Planck mass is about the height of a grain of dust and 2.39×10^{22} times of electron. Planck mass cannot be used to describe quantum, because quantum cannot be bigger than electron.

Now I found the key. According to the relation of Planck constant h , mass m , velocity v and radius r , we know $h = mvr$, which is the formula for quantum energy in my formula system. Due to the dimensional error of force, the observed value of Planck constant is not energy but power, so the observed value $p = mv^2$.

It can be explained as follows. Quantum mass is fixed, the speed of light is fixed, so Planck constant is fixed. According to $e = h \lambda$, frequency or wavelength is variable, then energy is also variable. Therefore we can deduce that the observed value is not energy but power.

According to the gravitational constant G , Planck constant p and the light speed c , physical values of quantum can be calculated. It is shown that $m = 7.372496 \times 10^{-51}$ kg, $r = 4.050045 \times 10^{-35}$ m and $t = 1.350950 \times 10^{-43}$ s.

We know that the mass of electron is 9.109382×10^{-31} kg, then an electron contains about 1.24×10^{20} quanta. If states of every adjacent quanta are different, the radius of electron should be 5.02×10^{-15} m, which matches the observed value in magnitude. So the measurements of quantum are unified. The observed value of electron radius is about 2.8×10^{-15} m, which is smaller than my estimate, because there is not vacuum at all but some mass points in electron.

From above, we can find that the disunity of classical mechanics and quantum mechanics is caused by the error of formula system. The error is not obvious in classical mechanics. But in microcosm, velocity grow into light speed, but mass, length and time become very small, the error becomes more obvious and divides classical mechanics and quantum mechanics. In fact, real world and microcosm is unified, and there must be something wrong in our theory.