Rediscovered dark quanta

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Last modified: 12 september 2017

Abstract

Two and a half centuries ago, scientist discovered solutions of the wave equation that represent dark quanta. These quanta configure all other objects that exist in the universe.

Dark quanta

Two and a half centuries ago, scientist discovered solutions of the wave equation that are not waves but shock fronts. The discoverers did not notice that these objects are quantized, but they discovered that the shock fronts only existed in odd numbers of participating dimensions. It is time to rediscover these objects and for that reason I have given them names. This makes it easier to discuss these objects. I use ***warp*** as name for one-dimensional shock fronts and ***clamp*** as name for three-dimensional spherical shock fronts. Shock fronts do not exist apropos of nothing. Shock fronts need to be triggered by a corresponding trigger.

Warps are one-dimensional shock fronts. During travel, they keep their shape and their amplitude. Until they are caught, they do not alter. Each warp carries a standard bit of energy. In physical reality, warps occur as separate objects, or they appear equidistant combined in strings where they emulate the behavior of photons. Photons obey the Einstein-Planck relation. This relation means that all photons share the same spatial length. The emitter most arrange the periodic trigger.

Clamps are three-dimensional spherical shock fronts. The front keeps its shape, but during travel, it diminishes its amplitude as 1/r with distance r from the trigger location. The clamp quickly fades away, but in the meantime, the front integrates into the Green's function of the carrier field. Therefore, the clamp temporarily deforms its carrier. Each clamp carries a standard bit of mass.

As separate objects, warps and clamps cannot be observed. They represent dark quanta. Only combined in huge continuously regenerated, dense, and coherent swarms the clamps can cause a significant persistent deformation of their carrier. Also, large clouds of dark quanta can generate an observable macroscopic influence.

Particles

Stochastic mechanisms exist that apply stochastic processes, which own a characteristic function, can generate the recurrently regenerated dense and coherent swarm of hop landing locations of a point-like object. That object is an ***elementary particle*** and hops around in a stochastic hopping path. The stochastic processes play a crucial role. The characteristic function acts as a displacement generator. Therefore, at first approximation, the swarm moves coherently as a single object.

Clamps do what the Higgs is supposed to do. They give elementary particles their mass. However. separate clamps will never become observable in measuring instruments, such as the LHC.

Elementary particles are elementary modules. Together, they constitute all other ***modules*** and the modules can form modular systems. Also, the modules move coherently as a single object. This fact indicates that their footprint a stochastic process also generates, whose characteristic function acts as a displacement generator. This effect is possible if the characteristic function of the module equals

the superposition of the characteristic functions of its components. The superposition coefficients determine the internal locations of the components. These locations may oscillate. This indicates that the characteristic function arranges the biding of the components.

The characteristic function equals the Fourier transform of the location density distribution of the generated hop landing location swarm. The deformation of the carrier equals the convolution of the Green's function of the carrier and the location density distribution of the swarm. With other words, the deformation describes the ***gravitation potential*** of the module. This shows that a simple relation exists between quantum physics and gravitation.

The location density distribution of the swarm equals the squared modulus of the wavefunction of the module.

Photons

The usual interpretation of photons as electromagnetic waves must be false. After long range trips that last millions of light years, warps will still preserve their amplitude and energy. Without waveguides, waves will diverge and lose most of their amplitude. Small detectors can then still detect strings of warps, but small sensors cannot detect what is left from waves. The carrier of warps is our living space, which is always and everywhere present. Electric fields do not feature such huge ranges. They require the nearby existence of electric charges.

References

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