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Information entropy of quantum dynamics

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Analytically it is established: all fundamental constants of quantum physics are quasi-harmonic functions of information entropy argument Sqrt(2*PI*E) of normal distribution. Information entropy of quantum calculus is fundamental law of nature, which cannot be less than 10^(-64) (binary calculus) and about 1/137/(10^57) (decimal calculus). In polar coordinates the minimal information entropy of relative geometrical parameters cannot be less than 10^(-17) because of the unique 17-digit mirror symmetry of squared 9-digit qubit:

(111111111)^2 = 12345678987654321 (finite mirror symmetry),
(111111111...)^2 = 123456790123456790...(infinite periodic symmetry),
(111111111...)^3 = 137174211248285322...(cubed infinite qubit).

　　It is easy to show that

AS = 1/100/(1.11111...)^3= 1/Sum{[137+(137-100)*n]/10^(3*n)},
AS = 0.00729 = (9^3)/(10^5),

where the so called Feynman-Born-Eddington-Sommerfeld "magic alpha-number" 1/137 = 0.0072992700729927...= Sum{729927/10^(8*n)} is unique number of infinite mirror symmetry of reciprocal natural set. Square of sum of root mean, of arithmetical mean, of geometrical mean and of harmonic mean of two transcendental numbers PI and E the SMS ={sqrt[(PI^2+E^2)/2]+(PI+E)/2+sqrt(PI*E)+2*PI*E/(PI+E)}^2, this is very close to 137, and E^137 is very close to 100*PI*10^57.

　　The second "magic number" of quantum physics is the Avogadro's integer 602214183:

Sum{602214183/(10^3*n+11)} = 0.00602816999...999397183 = 0.0062817 = BS.

　　The Sum (E+AS+BS) instantly gives us the exact 17-digit Kelvin's number K = 2.7315999984590452. Exact entropy value of normalized Maxwell's rotational speed is obtained instantly from two transcendental equations:

C = (R+4*PI*C/10^18)^64*(10^7) = 2.9979245786759134*(10^8), C = (R+4*PI*C/10^18)^(64)/(10) = 2.9979245786759074*(10^8), where R = Integer{10^8*(C/10^7)^(1/64)}/(10^8) = 1.05456978. Thus, the information entropy of speed of light value is about (60/2)/(10^16).

　　As an example, the information entropy of quantum calculus by the comparison of transcendental number Cos(PI/6) and irrational number Sqrt(3)/2.

　　All the fundamental constants of quantum physics are, in fact, the relative geometric parameters of pulsating and rotating spirals or the parameters of the connection of integers with irrational numbers that create the holographic two-dimensional image of the three-dimensional motion of wave fronts. It can be shown that the information entropy of quantum units changes from 10^(-4) for the gravitation constant up to 10^(-16) for the fine structure constant. And there is no need to use any artifacts, such as m, s, kg, in any metric system, because Quantum Physics, as a whole, is an absolute universal relative dynamic metric system, a digital bridge between continuous and discrete mathematics.

Biography

Dmytro Progonov holds position of Associate Professor in Dept. of Physics and Information Security Systems, NTUU "KPI". He received M.Sc. (2013) and PhD (2016) in information protection systems from KPI. Fields of interest: Information Security, Digital Media Steganalysis, Machine Learning and Big Data Analysis.

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