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Extended Abstract

MATERIALS SCIENCE & ENGINEERING: Quantum alphabet of matter language - Eugene Machusky - National Technical University of Ukraine "Kyiv Polytechnic Institute", Ukraine

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Abstract

For the first time, quantum physics was interpreted as a system of information communication, combining calculations and measurements in the framework of differential geometry and the inverse topology of an oscillating 137 polyhedron. As a result, only the functional relationships of the two transcendental numbers PI and E with three unique integers A, R, B were necessary and sufficient for the analytical determination of basic quantum units with practically unlimited accuracy 1/10 ^ 64: A = 137 (integer of Sommerfeld), R = 105456978 (integer of Dirac), B = 602214183 (Avogadro's integer). The key to quantum computations is the squared sum of arithmetical, geometrical, harmonic and rms: SMS [PI...E] =[Sqrt((PI^2+E^2)/2+(PI+E)/2+Sqrt(PI*E)+2*PI*E/(PI+E)]^2 = [136.9938985020083593] that very close to 137 = A. Four matrix equations describe the inverse geometry of simultaneously pulsating and rotating polyhedron: Relative inverse eccentricity of Sommerfeld [A] = (100*([R]-1)/2-E)/(1+Sqrt(2*PI*E/100)). Relative inverse radius of Dirac [R] = 1+2/100*(E+[A]*(1+Sqrt(2*PI*E/100))). Relative inverse perimeter of Planck [P] = 2*PI*[R]. Relative density of perimeters of Newton [G] = [P]*(1+[A]). Six matrix equations describe dynamics of threedimensional wave fronts motion: Relative velocity [V] = [R]^64*10^7. Relative energy [W] = 1+[V]^2. Relative amplitude displacement [MM] = 12-[A]/10. Relative phase displacement [KB] = Cos [MM]-Sin [MM]. Relative information entropy [NA] = {Sqrt(8*PI*E/(8*PI*E+A^2))/(1+2*[A]/1000) +5/10^8}/10. Relative inverse information entropy [DA] =1/[NA]/100. Ten scaling units coordinate binary [0...1], quantum binary [0.00000000>...1.11111111>], decimal [0...10], quantum decimal [0,00000000>...9.99999999>], alpha [0...137] and quantum natural [0...SMS] computations: Integral rotational speed of Maxwell C = (R/10^8+4*PI*C/10^18)^64*10^7 = [299792457.86759134]. Integral of Sommerfeld A1 = 1/A = Sum{729927/10^(8*N) = [0.0072992700729927]. Inverse integral of Sommerfeld AS = 1/100/Sum{[A+(A-100)*N]/10^(3*N+2)}= [0.00729]. Fine eccentricity of Feynman AF = 1000/Integer {1000*Sqrt(A^2+PI^2) = [0.0072973525205056]. Integral of Avogadro BS = Sum{B/10^(3*N+11)} = [0.00602817]. Entropy limit of Avogadro NB = B/(1+4*PI/10^8)/10^11 = [0.0060221410732354]. Background temperature limit of Kelvin K = E+AS+BS = [2.7315999984590452]. Displacement factor of Wien X = Root{X*E^X/(E^X-1) = 5} = [4.9651142317442763]. The functional relations of PI and E generate thirteen basic "consonant" of quantum alphabet: Upper parabolic limit of eccentricity A4 =. (PI*E/100)^2+(1/A-(PI*E/100)^2) = 0.0073189621138002. Upper hyperbolic limit of eccentricity AH = 1/(16*PI*E) = 0.0073187289405399. Upper elliptic limit of eccentricity A(NB) =. 0.0073131309589000. Upper logarithmic limit of eccentricity AL =. 1/(Ln(E)+59*Ln(10)) = 0.0073071361524362. Hyperbolic symmetry point of eccentricity A1 =. 1/A = 0.0072992700729927. Biquadratic symmetry point of eccentricity AF = 0.0072973525205056. Parabolic symmetry point of eccentricity A0 =. (PI*E/100)^2 = 0.0072927060593902. Qubit symmetry point of eccentricity AS = 1/100/(1.111111111111>)^3 = 0.0072900000000000. Upper limit of nuclear radius RC = R/10^8+4*PI*C/10^18 = 1.0545697837673031. Upper median of nuclear radius RE = R/10^8+1/E/10^8 = 1.0545697836787944. Lower median of nuclear radius RA = R/10^8+1/(E+AS)/10^8 = 1.0545697836787944. Lower limit of nuclear radius RK R/10^8+1/(E+AS+BS)/10^8 = 1.0545697836608581. Lower limit of eccentricity AX = 5/X-1 = 0.0070261763632109. Medians of “consonants” generate "vowels" of the quantum alphabet: Background (‘relic”) temperature TBG = [2.72525432756]. Vibrational tempo T = [2.99792456086] *10^+8.

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