



P=NP Problem Solving Hypothesis

Wesley Bruski Barbero 



Massachusetts Institute of Technology, Avenida Governador Ivo Silveira, nº 502, Irani-Santa Catarina, CEP: 89680-000. E-mail: wb-barbero@uol.com.br

ARTICLE INFO

Article history:

Received 27 February 2021

Accepted 18 March 2021

Revised 20 March 2021

Available online 30 March 2021

Keywords:

Problems P = NP

Oscillation

Wave function

ABSTRACT

As it occurs the maintenance of the quantum state with increased spatial transmission of qubits in networks, multi-layered electronics formed by the location of a particle curve function of low energy, high energy and the use of Optical Physics, the exchange of orbital states and non-linear deterministic amplitude of antiparticle energy, define the speed of transmission of data coded by computational quantum processes, reducing the positive quantification of errors, external interference and noises. This generates the recurrence and maintenance of a quantum state of a complex system by the coexistence of quantum interlacing in a dimensionless particle structure for wave effect, regardless of time and space, due to the integration of state vectors of space-time tissue. In float energy arrangement, so that the volume of quantum data is processed and solved in polynomial time. Thus, it will be possible to solve NP-complete and NP problems, equal to P in a quantum computer that maintains this state of data preservation, in an equation that determines the resolution by polynomial time formation and data maintenance, P=NP.

© 2021, . Wesley Bruski Barbero. This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited

Mathematics Subject Classification

30A10 33E15 81Txx

1. Introduction

Shown below that p is equal to np and all np can present itself in a state of p, in a complex system, even tending to chaos, observing a complex wave function of an orbital subspace in which polynomial time fuses with space in a quantum interlacing.

It is noteworthy that P is equal to the initial Vector Space in the orbital plane of the particle (Σ_i) multiplied by the energy (E) decreased the time (T) times N the number of attempts, added to the speed (V) multiplying the current Vector Space (Σ_c) on logarithm of the number of errors (\log_e). There is also the multiplication of (X) which corresponds to the complex angular momentum, on the number of problems that fit into the NP class.

It is divided by the particle superposition state (K) multiplied by the number of calculations per second (h) decreased by the particle superposition time (T^∞), multiplied by the difference by the number of input superimposed particles (S_i) minus the number of output superimposed particles (S_n), ρ . (Γ , t) multiplied by the probability density of the oscillation of the low energy spin to an energy capable of generating the quantum data encoding, influencing the distance that a quantum information can travel in a network, divided by the same probability density equality Ψ . (Γ , t)² resulting from the oscillation

of high energy to low energy of the respective antiparticle, which determines the velocity traversed by the information for the angular deformation of the spin in space-time in the orbital plane of the quantum interlacing, therefore the interrelation of the wave function in its moment of a perpendicular hyperbolic tangent function is described.

Multiplying by the variable of the particle normalization condition $\int_V d^3r$, which is relative to the state vector product in a complex plane of I, J, Ψ . (Γ , t)² = V^1/V^2 , demonstrating the probabilistic analysis of the maintenance of a quantum jump, before the energy oscillation that corresponds to an alteration of the wave function, and the resolution of this moment through non-linear algebraic vector space of independent variables on coded data of dependent variables, determines the alteration of the error rate resulting from external interference in the qubits, something that can be solved by controlling the wave time instead of maintaining the particle in electromagnetic suspension. Something that can be controlled by a material that absorbs 99.99% of light, preserving the state of the information associated with the use of optical laser in the transition from low energy to sufficient oscillating energy for the maintenance of a gas suspension, causing an increase in the transmission of coded data and the preservation of the fundamental state of the deterministic cycle of the quantum state. In an oscillation that tends to the discontinuity of its product over n the lower the differential limit of the complex subset.

The wave function related to an np polynomial tends to the smallest variation of polynomial time, when in a quantum computer there is the fusion of time and space of a particle, thus observing the resolution of NP-complete problems.

The smaller the orbital space between particles, the greater the

* Corresponding author.
Wesley Bruski Barbero, Pharm Medical Student, Harvard
Medical School.
Ph: 55-49-98418-8853
E-mail address: wb-barbero@uol.com.br

probability of n adopting an intrinsic pattern to chaos in an infinite function multiplied by the energy resulting from the oscillation of dynamic and non-deterministic time and state vector, generating a relationship of recurrence of maintenance of time and space of coded data in a particle when establishing a stochastic pattern in the complex plane.

In this resolution, we explain why the higher the prime numbers, the greater the probability of finding an intrinsic pattern. That is, the factoring of a large number by a quantum system tends to maintain a relationship of recurrence of time and space in the resolution of the problem np occurring the predictable maintenance of polynomial time in which the probability density of becoming p is attributed to a given problem NP . As occurs in Physics of Particles. Then given $P=NP$ [1-15].

Wave function oscillation relates to the angular vectors in a subset in the complex plane. The differentiable tensorial state of a particle and its antiparticle establishes a dynamic determinant of asymmetric distribution in electrons, whose derivation of the energy state through probability density decomposes the tensorial state and kinetic energy, with predictability of determining the location of the electron by increasing the wave of a complex function on the energy state directed to the angular momentum of the spin [15-18].

The existence of a Markovian process in the maintenance of a probability vector of the state of time and space determined by the integration of independent variables of particle magnetization, generates the distribution prediction of the decoherence pattern.

Thus, the stochastic pattern of hyperbolic function in the location and dimensioning of the electron tends to be modified by an intrinsic pattern of an electron energy distribution and oscillation attractor

It produces in the orbital and magnetic region, a state of autosimilarity of complex dynamics, generating the encoding of quantum input and output data.

As occurs the maintenance of the quantum state with increased spatial transmission of kibst in networks, multi-layered electronics formed by the location of a particle curve function of low energy, high energy and the use of Optical Physics, the exchange of orbital states and non-linear deterministic amplitude of antiparticle energy, define the speed of transmission of coded data by computational quantum processes, reducing the positive quantification of errors, external interference and noise [19-20].

This generates the recurrence and maintenance of a quantum state of a complex system by the coexistence of quantum interlacing in a dimensionless particle structure for wave effect, regardless of time and space, due to the integration of state vectors of space-time tissue in float energy arrangement, so that the volume of quantum data is processed and solved in polynomial time.

In this way, it will be possible to solve NP-complete and NP for P problems in a quantum computer that maintains this state of data preservation, in an equation that determines the resolution by polynomial time formation and data maintenance. $P=NP$ [20-23].

2. Conclusion

The existence of the control of the wave function through vector spaces in a complex space, by the control of the wave time, explaining the function of counting and wave, optical duality of particular and geometric waves. With the use of material that absorbs light, preserving the state of information, through angular control in the topology of this material, causing an increase in the transmission of quantum data and maintaining the fundamental state of the particle cycle, the preservation of quantum qubits may occur for a certain time. By preserving the information that could be sent for thousands of kilometers between one quantum computer and another, creating complex quantum algorithms of open set systems, one can create a matrix resolution pattern capable of generating the resolution of both quantum and classical polynomials. P and NP complete.

For this sequencing of information to occur, through multiplexed entanglement with a dynamic fluctuation that employs particle superposition, the stability index of most graphs must be calculated using the graphic theory, looking at vertices and edges together, for

synthesis of fluctuation of states and particle cycle, then we have: The stability index of almost all graphs is low compared to the number of vertices.

In the graph:

No matter how small the positive number ϵ , we have $\alpha(G) < (2 + \epsilon) \log_2 n$ for almost all graphs G in $G(n)$. PROOF: Let k be the number $d(2 + \epsilon) \log_2 ne$ and denote by $Q(n, k)$ the set of graphs k in $G(n)$ for which $\alpha \geq k$. It remains to show that $\lim_{n \rightarrow \infty} \frac{|Q(n, k)|}{|G(n)|} = 0$. (2.1) Let X be a subset of V with elements

k . There is a one-to-one correspondence between the graphs in $G(n)$ where X stable and the subsets of $V(2) \times X(2)$. Therefore, X is stable at $2N - K$ of the graphs, where $K = k^2$. Since V has subsets $k \leq nk$ of cardinality k , we have $|Q(n, k)| \leq nk^{2N - K}$, and therefore $|Q(n, k)| / |G(n)| \leq nk^{2 - k(k-1)/2}$. This follows $2 \log_2 (|Q(n, k)| / |G(n)|) \leq 2k \log_2 n - k(k-1) = k(1 + 2 \log_2 n - k) \leq d(2 + \epsilon) \log_2 n - (2 + \epsilon) \log_2 n = d(2 + \epsilon) \log_2 ne - (2 + \epsilon) \log_2 n$. (2.2) is

Since $\lim_{n \rightarrow \infty} (1 - \epsilon \log_2 n) = -\infty$, we have $\lim_{n \rightarrow \infty} \frac{|Q(n, k)|}{|G(n)|} = 0$, and this proves (2.1). For example, if $\epsilon = 0.2$ then, by virtue of (2.2), we have $|Q(1024, 22)| \leq 220 \cdot 2^{231} / |G(1024)|$ and, therefore, a fraction of at least $1 - 2^{-11}$ (more than 99.9%) of the graphs in $G(1024)$ have $\alpha < 22$, mainly in the occurrence of spatial determination of electron pair. In addition, we need to worry about the rotation part of an integral. $\sum_{i,j} \Phi_{ij} J_{ij} - K e_{ij} = R_{12}$ Note that $1 / r_{ij}$ does not depend on any rotation coordinate. This means that all elements of matrix $1 / r_{ij}$ must be diagonal in the rotation (α / β) of electrons i and j . For 2 electrons 2×2 and $1s = J_{1s} K e_{1s} = 0 e_j 1s\alpha, 2s\alpha = J_{1s}, 2s K_{1s}\alpha, 2s\alpha = K_{1s}, 2s e_e J_{1s}\alpha, 2s\beta = J_{1s}, 2s K_{1s}\alpha, 2s\beta = 0$. If, instead, we look explicitly for $\alpha\beta + \beta\alpha$ and $\alpha\beta - \beta\alpha$ to generate their own states, we want $2 - 1/2 [s_{1s}\alpha, 2s\beta, 1s\beta, 2s\alpha] \cdot [\Phi_{1s}\alpha, 2s\beta \pm 1s\beta, 2s\alpha] \cdot R_{12}$ from where we get $11 (J_{1s}2s + J_{1s}2s) (K_{1s}2s + K_{1s}2s) = J_{1s}2s K_{1s}2s$. 2 of the diagonal of the transverse terms 6 terms note that this inversion of the signal comes from the permutation of 1-2 electrons. The upper signal corresponds to the trigeminal $E_{3s} = J_{1s}, 2s - K_{1s}, 2s E_{1s} = J_{1s}, 2s + K_{1s}, 2s$ Calculate the probability density of Bayesian electronic statistics:

Probability Density.

In statistics, the probability density distribution is a function used to represent the probability distribution of a continuous random variable.

Use the calculation: $f(x) = \int_{-\infty}^{\infty} \delta(x - x_0) f(x) dx$

Then, the calculation of the systems described by a Hamiltonian is done, calculating the scale factor that reduces the freedom of the atom's dimensional system. The integral trajectory must be calculated, which consists of a superposition of integrals of local harmonic oscillating trajectory centered on average positions (x_0) , each one with its own frequency $\Omega(x_0)$. Finally, Slater's determinants are used to calculate the energies. In order to maintain the quantum state, analyzing the wave function renormalized by a Bayesian pattern that will identify a rotational and angular relationship of the electrons, demonstrating the dimensionless pattern of particle fluctuation.

If this is determined, the preservation of the fundamental state and the creation of a complex algorithm for changing machine learning matrix resolutions, may suppose the resolution that P is equal to NP , because there is the creation of a fundamental mathematical state in creation of polynomial functions present in sets of problems P , present at the intersection of these sets and existing in sets NP .

Displaying the effect of long-term quantum memory and maintaining consistency is one of the challenges in processing quantum information. This article studies the $P = NP$ problem solving hypothesis also to quantify errors and reduce external inferences and noise in quantum information protocols. The maintenance of the quantum state with increased spatial transmission of qubits in networks, multilayer electronics formed by the location of a low energy, high energy particle curve function and the use of optical physics, the exchange of orbital and nonlinear amplitude states deterministic energy of the antiparticle, tends to define the transmission speed of data encoded by quantum computational processes, reducing the positive quantification of errors, external interferences and noise which is of interest to the world and was

considered by the author. This is achieved by solving the NP-complete and NP-P problems on a quantum computer that maintains this state of data preservation, in an equation that determines the resolution by polynomial time formation and data maintenance. By preserving the information that could be sent thousands of kilometers between one quantum computer and another, creating complex quantum algorithms for open set systems, they create a matrix resolution pattern capable of generating the resolution of quantum and classical polynomials. Complete P and NP. For this sequencing of information to occur, through multiplexed entanglement, with dynamic fluctuation that employs particle overlay, the stability index of most graphs was calculated using graphic theory, observing vertices and edges together, for synthesis of fluctuation of cycle particle states and interaction. There was a discovery that the stability index of almost all graphs is low compared to the number of vertices in the graph.

Conflict of Interest

None

Acknowledgements

None

References

- Albeverio S, Hoegh-Krohn R. A Remark on the Connection Between Stochastic J Lechanics and the Heat Equation. *J Phys.* 1974;15(10):1745.
- Aguirre, Luiz Antonio. Introdução À Identificação de Sistemas. Minas Gerais: UFMG, 2007.
- Ballentine, L.S. The Statistical Interpretation of Quantum Mechanics. *Rev Mod Phys.* 1970;42:358.
- Boldrini, José Luiz. Álgebra linear. São Paulo: Harba, 1980.
- Bohm D. Causality and Chance in Modern Physics. Routledge & Kegan Paul, LTD. 1967.
- Carmen Lys Ribeiro Braga. Notas de Física-Matemática: Equações Diferenciais, Funções de Green e Distribuições. Editores: Walter F. Wreszinski, Jose F. Perez, Domingos H. U. Marchetti e João C. A. Barata. Ed. Livraria da Física, São Paulo. 1a edição. 2006.
- CH. Bennett. Logical reversibility of computation. *IBM Journal of Research and Development.* 1973;17:525.
- Curso de Física-Matemática, J.C.A.Barata, [http://denebola.if.usp.br/~jbarata/Notas_de_aula/Capítulol9, Capítulol36, Capítulol37, Capítulol38](http://denebola.if.usp.br/~jbarata/Notas_de_aula/Capítulo16, Capítulol9, Capítulol36, Capítulol37, Capítulol38).
- David J. Griffiths, Mecânica quântica, Ed. 2, Tradução Lara Freitas, (Pearson, São Paulo).
- Díaz JLF. Geração de emaranhamento de polarização entre pares de fótons no regime de femtossegundos. Dissertação (Mestrado)– Universidade Federal de Pernambuco, 2014.
- D. Deutsch, R. Jozsa. Rapid solution of problems by quantum computation. *Proceedings of the Royal Society A.* 1992;439:553.
- FAS. Barbosa, AS. Coelho, KN. Cassemiro, P. Nussenzweig, C. Fabre, M. Martinelli, AS. Villar. Beyond spectral homodyne detection: Complete quantum measurement of spectral modes of light. *Phys Rev Letters.* 2013;111:402.
- Hänsch TW, Schawlow AL. Cooling of gases by laser radiation. *Opt Commun.* 1975;13(1).
- H. Jeffreys. *Theory of Probability* (Oxford University Press, 1998).
- Kobayashi K, Ohtsuki T, Slevin K. Critical exponent for the quantum spin Hall transition in Z2 network model. *Phys Rev B.* 2011;1:1-5.
- Kok, P, *et al.* Linear optical quantum computing with photonic qubits. *Rev Mod Phys.* 2007;79:1.
- Mandelbrot, Benoit B. *The Fractal Geometry of Nature.* New York: W.H. Freeman and Company. *Methods of Modern Mathematical Physics.* 1977;Vol. 1-4,.
- MO. Scully, MS. Zubairy, *Quantum Optics* (Cambridge University Press, 1997).
- Parisio F. Estimating the reduction time of quantum states. *Phys Rev A.* 2011;84:6.
- R. Cleve, A. Ekert, C. Macchiavello, M. Mosca. Quantum algorithms revisited. *Proceedings of the Royal Society A.* 1998;454:339.
- Stewart, James. Antonio Carlos Moretti. *Cálculo*, volume 1. São Paulo: Cengage Learning, 2012.
- Varriale MC. Transição de localização em potenciais aleatórios com correlações de longo alcance. Tese (Doutorado) — UFRGS, Porto Alegre, (1994).
- Wegner, F. Electrons in disordered systems. Scaling near the mobility edge *Zeits. Phys B Condens. Matt.* 1976;25(4):327-337.



Submit your manuscript to Boston science publishing journal and benefit from:

- ▶ Convenient online submission
- ▶ Rigorous peer review
- ▶ Immediate publication on acceptance
- ▶ Open access: articles freely available online
- ▶ High visibility within the field
- ▶ Retaining the copyright to your article

Submit your manuscript at [† bostonsciencepublishing.us †](http://bostonsciencepublishing.us)