Quantum Computer is Very Hard by Bad Quantum Number(BQN). 2026/1/13,14

Quantum CPU essence are ***at Once Doing with Parallelism in Shot Gun Probability***.
Digital computation needs BIT coherency,but not in detecting BIT superposition.Detecting BQN qubits inevitably inject some heat into qubits,which destroy the coherency.The degree of allowable heat depend on qubits property.Superconducting is macro quantum state,so it is high.Quantum computers require over **1 million arrayed qubits**, but as of 2024, they are struggling with only **a hundred at most** in the hidden miserable lab states !!?.

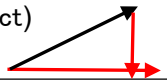
[1]:The Very Basics of Quantum Mechanics(=QM the Truth).

*Readers are familiar with elementary QM,but amateur could notice something serious..

Quantum Stochastic Mechanics(QSM)the Hidden.
http://www.777true.net/Quantum-Stochastic-Mechanics_QSM_the-Hidden.pdf
http://www.777true.net/Real-Image-of-quantum-Chemical-Reaction.pdf

(1)A QM system **state**=ψ is determined by **Hamiltonian**=**H** in Schrödinger equation.
$i\hbar\,\partial\psi/\partial t = \mathbf{H}\psi$.....**H** is an engine with car-body ψ in the dynamics

(2)**Observable**(variables)=$\mathbf{B}_k$ on ψ....$\mathbf{B}_k$ is operator for function=ψ trasnforming $\Omega=\mathbf{B}_k\psi$
Inner product of functions=vectors::$b_k=\langle\psi|\Omega\rangle=\langle\psi|\mathbf{B}_k\psi\rangle$...**observed physical value**=1,0

(3)**The Conceptual similarity between AI**	**and QM**
(a)Representation of **Recognition Target** vector $\mathbf{a}=(a_0,a_1,a_2,a_3,,,,,)$ in **orthogonal** axis, $\mathbf{a}=\sum_k a_k\mathbf{e}_k$.....$\langle\mathbf{e}_j|\mathbf{e}_k\rangle=\delta_{jk}=0(j\neq k)),=1(j=k)$.	quantum state with physical(eigen)values. function is vector by orthogonal function set $\psi=\sum_k a_k\phi_k$.....$\langle\phi_j|\phi_k\rangle=\delta_{jk}$.
(b)vector to vector transforming by **matrix**.	function to function transforming by **operator**.
(c)**Similarity Measure**=inner product of vector (orthgonal)$0\leqq\langle\mathbf{a}|\mathbf{b}\rangle=\sum_k a_k b_k\leqq 1$(parallel)	physical value measure=inner product $b_k=\langle\psi|\mathbf{B}_k\psi\rangle$
＊A recognition is a projection(inner product) to something standard<measure> 	

(4)Time & Energy Uncertainty "*Theorem*" in Quantum Statistical Mechanics.

Tf=1: Ordinal clock period＝T by clock frequency＝f。
$\Delta E(t)\,\Delta t(t)=\hbar$:.....ħ＝Plank constant.
＊Δt(t)＝time between initial and final transition by a random thermo-chemical reaction.
＝period for a single thermo-chemical reaction.
＊ΔE(t)＝energy deviation in statistical ensemble.
Quantum Clock is theorem proved in the limiting of the modified Wiener-Khintin theorem:
http://www.777true.net/Quantum-Stochastic-Mechanics_QSM_the-Hidden.pdf
http://www.777true.net/img007-Quick-Guide-to-Quantum-Stochastic-Mechanics.pdf

[2]:Time & Energfy Uncertainty Relation by the Statistical Mathematics: "Evolution Principle by Energy Fluctuation"(p4/15).

Initial quantum state ψ(t) decays to ψ(t+Δt) after a single reaction transition. Due to quantum state orthogonality, the correlation function value is:0 = $R(\Delta t(t))=\int_{t-\infty}^{t+\infty} du\,\psi(u)\psi(u+\Delta t)$
Applying the extended WK theorem to the limit approximation of the frequency-energy domain representation of Δt(t), the uncertainty theorem is obtained.

⑸**Energy and Time in QM ruled by Hamiltonian**.

H＝{H_0,H_S}.H_0 is energy observable,while **H_S** is state transition reactor.

Ⅰ:In **H_0** system,ψ is unique **H_0** eigen state ϕ_k with Notihing State Transition. ⇒
⇒Reaction time interval $\Delta t=\infty$、$\Delta E=0$.....⇒.....Nothing superposition of eigen state.

Not only ,also all the commutable observable **B**'s eigen states are the same.
⇒**[2]**:$0=i\hbar d\mathbf{B}/dt=[\mathbf{B},\mathbf{H_0}]\equiv \mathbf{BH_0}-\mathbf{H_0B}$,.....**B** is conserved observable with **H_0**

H_0＝self adjoint operator: $\mathbf{H_0}\phi_k=E_k\phi_k$.<k=0,1,2,.....>;
$<\phi_j|\phi_k>=\delta_{jk}$...complete orthogonal function set.⇒ $\psi(t)=\Sigma_k a_k(t)\phi_k$...⇒ $a_k(t)=<\phi_k|\psi(t)>$
ⅰ:$\psi(t)=\Sigma_k a_k(t)\phi_k$...⇒ $i\hbar<\Sigma_k(da_k(t)/dt)\phi_k>=\Sigma_k a_k(t)E_k$.
⇒ $i\hbar da_k(t)/dt)=E_k a_k(t)$.⇒$a_k(t)=a_k(0)\exp(E_kt/i\hbar)$.⇒$|a_k(t)|^2=|a_k(0)|^2$...no change in time.
*$a_k(t)=a_k(0)\exp(E_kt/i\hbar)$.⇒$\psi(t)=\Sigma_k a_k(t)\phi_k=\Sigma_k a_k(0)\exp(E_kt/i\hbar)\phi_k$

ⅱ: **In H_0 ,Notihing State Transition with Unique Initial Eigenstate** ⇒$\Delta t=\infty$、
nothing state transition means reaction period $\Delta t=\infty$、⇒$\Delta E=0$
$\Delta E=0$ means state energy is unique eigen one without the superposition of those.
Note also commutable observals are an eigen state without the superposition.

$i\hbar\partial\psi(t)/\partial t=\mathbf{H_0}\psi(t)$.⇒$\psi(0)=\phi_k$,,$\psi(t)=\psi(0)+(1/i\hbar)\int_0^t du_0\mathbf{H_0}\psi(u_0)$
$\psi(t)=\psi(0)+(1/i\hbar)\int_0^t du_0\mathbf{H_0}[\psi(0)+(1/i\hbar)\int_0^{u_0} du_1\mathbf{H_0}\psi(u_1)]$
$=\psi(0)+(1/i\hbar)\int_0^t du_0\mathbf{H_0}\psi(0)+(1/i\hbar)^2\int_0^t du_0\int_0^{u_0} du_1\mathbf{H_0H_0}\psi(u_1)$
$=\psi(0)+(1/i\hbar)\int_0^t du_0\mathbf{H_0}\psi(0)+(1/i\hbar)^2\int_0^t du_0\int_0^{u_0} du_1\mathbf{H_0H_0}\psi(0)+$.....
*In any term,those generate only initial state=$|\phi_k>$.
*$(1/i\hbar)\int_0^t du_0\mathbf{H_0}\psi(0)=(tE_k/i\hbar)\phi_k$.
$<\phi_j|\psi(t)>$=.....$<\phi_j|\phi_k>=\delta_{jk}$...Nothing transition into different state=$|\phi_j>$

Ⅱ:In order to have time evolution,non-self adjoint=**H_S** is inevitable,
.....**Theorem by Logical Contraposition.**

which must be **non-observable singular**(not regular⇒information loss⇒probability theory).Energy is non observable, thereby $\Delta E=\infty$、$\Delta t=0$
This is just agree with the reality of **Instantaneous Quantum State Transition** !!!.

Consistency with reality.
Standard Quantum Field Theory is experimentally consistent, and state transition probabilities are calculated from the non-analytic Hamiltonian density ~**H**s using the operator product of force-mediated **gauge fields** and elementary particle spinor fields. However, these are hyper function products that share a singularity, which lack a mathematical definition (non-analytic), resulting in a probability theory due to a lack of deterministic information**.**

[2]：Stable Conservative observable can not be superpositional,while super-positional one can be neither conservative,nor stable in micro scale,but might be some stable in Macro Superconducting State?.

$i\hbar d\mathbf{B}/dt=[\mathbf{B},\mathbf{H_0}]\equiv \mathbf{BH_0}-\mathbf{H_0B}$,.....commutation relation for Heisenberg equation.

(1)Most of time in QM system,Hamiltonian is $\mathbf{H_0}$, because $0=\Delta t(\mathbf{H_S})$.
(2)**Good<**conservative**>** and **Bad <**non conservative**>Quantum Number.**
(a)**B** is assumed to be quantum-bit Observable,
If **B** is commutable with $\mathbf{H_0}$,it must be conservative observable with no superposition state.
.....[2]：(5) I .....**Good Quantum Number**

(b)If **B** is no commutable **,**it must be time dependent becoming random quantum bit.
.. ..**Bad Quantum Number** ⇒ See below.

(3)Observation Actuality.

(a)**Passive Measurement B=Good Quantum Number**.
$0=i\hbar d\mathbf{B}/dt=[\mathbf{B},\mathbf{H_0}]\equiv \mathbf{BH_0}-\mathbf{H_0B}$,

This is a passive detection of something spontaneously emitting from concerned system. Thereby the result observation by eye never concern system.
example)：Schrödinger's CAT observation.
⇒ nothing wave packet convergence by the result observation.

(b)**Active Measurement B=Bad Quantum Number**..
$0\neq i\hbar d\mathbf{B}/dt=[\mathbf{B},\mathbf{H_0}]\equiv \mathbf{BH_0}-\mathbf{H_0B}$,

This is actively injecting something to cause (a).....Then ,a random reaction is inevitable(by wave packet convergence).While if the probability is coherent,it become available as shot gun in the parallelism for accomplishing quick CPU accessing to target object.
example)：electron position measurement by targeting electron gun and the reflection measurement.

(4)If **B** is no commutable **,B** must be time dependent becoming random quantum bit.
If system is $\Delta t=\infty$、$\Delta=0$.....ground state of Temperature=0
The actuality is **Active Measurement B**.It is an inevitable artificial injection of something energy causing ground state heat excitation !.

A heat is the most enemy destroying **COHERNCY** in a digital computation process.....A random heat effect could be relaxed by statistical averaging,then computation process(or paralleling capacity)would take times(costs) to destroy Quantum CPU performance ?. Nothing the merit ?!.

[3]：Superconducting in the Macroscopic Quantum Bottom State. Formation of macroscopic Cooper pair spin-aligned currents in adiabatic potential bottom of near zero-temperature.

❶Superconducting:

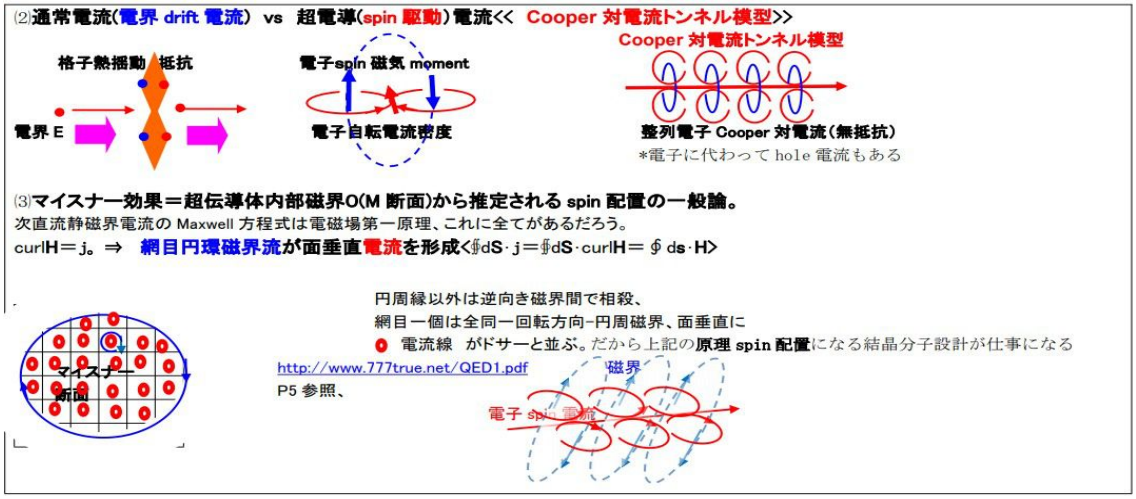
(1) The magnetic spin coupling force between electrons (Cuper pairing) is stronger than the repulsion of the charges.

http://www.777true.net/SIN-SPIN-BONDING-interaction-is-stronnger-than-that-of-same-charge-in-10%5E-7m_PART-1.pdf

⑵Lattice vibrations in high-temperature superconducting material structures do not destroy the macroscopic alignment of Couper pairs even at some high temperatures.

http://www.777true.net/Super-Conductivity-the-Critical-Temperatur-&-Cooper-Current-Dipole-model.pdf

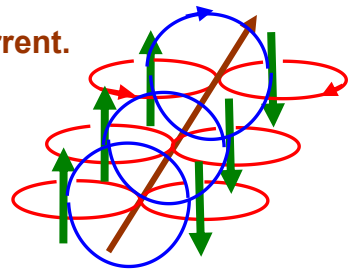
⑶Macroscopic alignment automatically becomes macroscopic current, so if you make it a ring, it becomes a permanent direct current.It is a synthesis of aligned electron spin currents, and is not a spatially moving current originating electrical resistance!! Macroscopic alignment is realized as a stable state with the minimum energy of the electron group in lower temperature of special matters .



http://www.777true.net/Super-Conductivity-the-Meisner-Zero-Magnetism-with-the-uniform-Current-Density.pdf

❷The Cooper Pairs Array becoming Current

⑴**electron spin with circular current ,with the magnetic field and synthesized current.**



Caution:electron charge is positive in left fig.

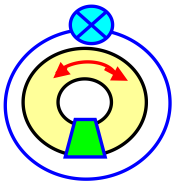
spin arrow is right hand screw direction

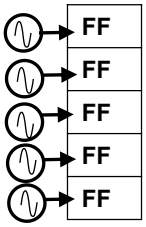
⑵In actual superconductor,the Cooper pair of 1 dimensional lines becomes multi layers of bundle

⑶Large scale of spin alignment cause negative energy of stability.

[4]：GHz Oscillation in Superconducting ring with capacitor.

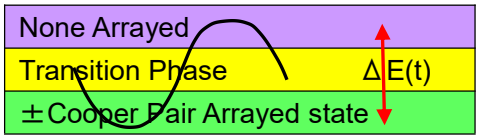
https://en.wikipedia.org/wiki/Superconducting_quantum_computing





⑴**LC-circuit-like oscillating current:**
External magnetic field excitation initiates current.
A potential difference is created across a portion of the ring (the insulator capacitance).
When this occurs, a current-stopping force halts the flow, resulting in charge accumulation.Back electromotive force is generated, initiating ultra-high-frequency oscillation. <**Origin of unit qubits**>
*Damped oscillation due to dielectric loss,etc. Periodic external excitation is necessary.

⑵**Binary "1" and "0" phase of oscillating current ={Clockwise rotation, CC rotation}**
Alternate current is realize by ±Cooper pair(CP)Array with troublesome transition phase.
Reflects the surrounding macroscopic magnetic field can be read. This can be considered a superposition of two distinct eigen states.



⑶the circuit is symmetric, producing **equal-probability bit** for calculations.

⑷**Fluctuation in the phase of damped current due to the quantum transition between “0”and “1”?.**
Note superconducting AC current is damped by energy loss,so periodic external excitation is inevitable.Non expert author can not tell the exact actuality.However note following serious report on not coherency of probabilistic qubits .

Detection of temporal fluctuation in superconducting qubits for quantum error mitigation
https://pubs.aip.org/aip/apl/article-abstract/123/18/184002/2919253/Detection-of-temporal-fluctuation-in?redirectedFrom=fulltext
Note pragmatical qubits needs more than 10000 bit string,such degree error is far from the realization.

[5]：Large IC implementation by Flip-Flop Arrays with Oscillators ：

A fixed-frequency with independent random-phase oscillator circuits converts Flip Flop bit string into a toggling superconducting quantum bits equivalent.

This is an author opinion and question for you ,what is wrong for paralleling process ??

*The final results of quantum bits is data addressing for calculation process.

They tell exact controlling of large scale quantum bits string is very hard.

Then what is wrong in employing elecctronic circuit of semi-deterministic bits??.

Equalizing Probability of 2^N bit pattern

in Semi-Deterministic IC Circuit.<How to build qubits by ordinal IC circuit ?>

Quantum CPU essence are ***at Once Doing with Parallelism in Shot Gun Probability***

To substitute the quantum bit difficulty in quantum computer with a ordinal l electronic circuit, quantum superposition can be overcome by parallelism, but quantum randomness is not possible. The 0-1 transition of a superconducting quantum bit is probabilistically random. In fact, this is causing malfunctions and causing problems for researchers.

To achieve relative bit-to-bit phase coherent randomness in an electronic circuit, all that is needed is for a fixed frequency to fluctuate by a small amount. Well-established, statistically verified digital noise generation technology is available, Or another direct digital method of generating probabilistic qubits state of 2^N state in parallelism.However,now author don't know the details.This is also your serious task.

[6]：At that actual Business Filed.

Our mission may be disclosing essential **Quantum Limitation** on **Qubits**,but not quantum CPU the ideology .Unfortunately,it is has not done.

⑴***Google is also struggling to develop quantum computers.***

https://xtech.nikkei.com/atcl/nxt/column/18/00155/022600048/

However, aiming for 1 million qubits with current qubit control systems would require connecting the quantum processor with more than 2 million coaxial cables, which is physically impossible.

⑵The Explosion of AI would need high CPU performance in speed capacity with less electrical power. So China and US have been largely investing.

IBM to invest 21 trillion yen in the US over five years to promote domestic quantum computing

⑶Author strongly recommend Big Investment in following **Energy Creation Technology**.

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http://www.jlnlab.com

http://jnaudin.free.fr/gegene/gegene09en.htmhttp://jnaudin.free.fr/gegene/gegene09en.htm

Output=184vx20.75A(max30？A)=3818W, Input=1850W.

PS:Author's(,,,,not only he)supreme hope is rapidly establishing an

AI who can answer and satisfy almost the planet inhabitants in the world now heading global extinction about 2040.

Now the world had become outrageously,unprecedentedly corrupted in political leading, so it is almost desperate *a mankind leader could to it !!*.All the possible resources must be rapidly poured in to the project !!.