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The Half Life Period and Radioactivity Curves of D Wave Molecule

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Abstract: *- That equations between half-life period and life are tried to look for is the main aim in this paper. Several curves are found here. It hopes that these curves are useful to wield its roles in current research. D wave molecule in quantum dynamics is found to have a short (~several hundred ms) life. So that it is calculated that the N/N0 and radioactivity at a certain life. Through comparing we find the radioactivity is more important than the N/N0, the radioactivity is first factor and then N/N0. It is found that N/N0 decreases with decay constant increasing and the radioactivity increases and then decreases with it increasing. It increases and then decreases if N/N0 increases. The maximum value of 1.7 nuclei of radioactivity is not so big explains no neglect is available. It is old after 0.22 years. D wave molecule in quantum dynamics is found to have a short (~several hundred ms) life. So that it is calculated that the N/N0 and decay constant with half-life period at a certain time. Through comparing we find the half-life period is more important than the decay constant, it is first factor and then decay constant. It is found that N/N0 increases with half-life period increasing and it decreases with life decreasing too. The frequency and energy decrease if D wave increases. If we activate two areas two D wave molecules will be activated. In terms of that calculating half period life will double, promoting areas for four will increase life four times. Continuous utilizing this the 0.22years half one will attain 22years. The needed one is the material whose volume is big enough to produce one. Like Copper oxidation etc. Heard can be applied to the quantum CPU. How we can calculate this material whose D wave molecule life is bigger than now is the key.*

Keywords: *- D wave molecule; life: frequency: energy； half-life period; life time*

1 Introduction

In 1946 the first computer was established in USA and then according to Mole principle the computer calculation speed increases one time each eighteen months. That equations between half-life period and life are tried to look for is the main aim in this paper. We find several useful relations among them. Though we don't have detailed equations to prove them it will play a part in quantum physics. Now the quantum computer is established to apply to computing and mobile cell communication. [1] Jianwei Pan and Chaoyang Lu have established quantum laboratory to proceed experiment to apply to computer CPU (central processing unit). [2] Here D wave molecule is proposed to have life about several hundred microsecond. D wave band arranges from the frequency of 110GHz~170GHz. So it is very short wave like particle and photon with high energy to induce other low energy particle to reflect and escape. The half-life period is regarded as a criteria to judge a radioing element photon as D wave. D wave molecule is frequency which is a significant factor to quantum computer. That is the main issue in computing CPU (central processing unit) that controls the key of computer system. So it is need to search the intrinsic relationship of them. It and life has whatever relationship there is? It needs us to think again. The life and passing time has whatever relationship there is? [3]It also needs us to think over again. So in this paper the above two factors and questions will be calculated and discussed in order to explore and clarify their intrinsic tendency relationship.

[4~6]As we know the big data has been processed more and more, day and day. It is our chance to propose the key technological problem and hurry up to lead the world for future usefulness so that the problem has been solving gradually to catch the leadership in the world. [6~7] We proceed it so as to catch rapidly developed computer enterprise. Entrepreneur is needed to dedicate to this enterprise to erect industrious manufacture. Investment should be put so as to further research and exploration for institute、university and enterprise. Government should instruct their role to lead investment and creation to a new situation for innovation and negotiation to achieve world economy prospect.

It can be applied to quantum computer to proceed big data handling field like more than 5G mobile communication. The speed is several billions higher than 1G and dealing quantity per second is one hundred years of it. Due to its advantage it will be next generation communication and computation of new skill.

2 Discussion

In terms of Figure 1 the new particle will be the biggest in 1 of delay constant λ, which can be used to form D wave molecule currently. That will have bigger market to computer CPU. Because it may promote life of Q wave molecules it is paid attention to this delay one. As we knew in terms of audio activity exponential delay rule the less time of life will produce more new particle so that the material of this life are to find is the way to increase S wave molecules life. An equation is derived from deduct and then the curve is produced in usual. But the trend curves are found before equation is established here. That it will benefit from the utilization of it in advance will find promise information. Below are these information, maybe it derive from experiment so that we can deduce experience equation firstly to study in advance. That is the most important thing for research. We use the analogue method to establish the relation among them. It is also a method for exploring its internal relation. It is certain that they are not so key result that will create a dominated find as the easy obtaining. We should treat them with subjective eyes. They are generally the unknown relation but explicit curve that are not aroused by now correctly and properly. So it is needed to research detail for some time. Maybe it create significant roles in quantum field in the future but it need to have experiment to prove once it is found a useful value. It is a creativeness for finding its relation. As Figure 1 with the decay constant increasing the new particle will decrease. Meantime with increasing decay constant radioactivity/N0 will increase 1.6 and they decrease after decay constant's 3. This is an interesting result. Certainly the maximum radioactivity/N0 is maintained with 1.7 nuclei at the 0.22 years ie 2.64 months. So we should utilize this to practice. That it is not so low explains no neglect is available. It is how we control it to be higher is our task in future. Though it is unchangeable to let it maintain its original status when it is working. We should delay its utility to work for us continuously is our task in future. If it is old after 0.22 years though it will be not too short we should raise its life to more in order to promote its service years and decrease its cost. The new particle ration will arrive 1.3 times at this point. That is the one when radioactivity is maximum. Through controlling the N/N0 the radioactivity will be controlled too as Figure 2. With the N/N0 increasing the radioactivity/N0 will increase 1.6 firstly and then decrease at 0.4 times. It explains that it will change with the new particle as above. This (5) is the relation equation λ between T1/2 and N/N0. (8) & (9) are two radioactivity equations.

$$\text{Because } \frac{N_0}{2} = N/2e^{-\lambda t} \quad (1)$$

$$\text{Has } \frac{N_0}{2} = N_0 e^{-\lambda T_{1/2}} \quad (2)$$

$$\text{Has too } 1 = 2N_0 e^{-\lambda(T_{1/2}+t)} \quad (3)$$

$$\text{And } N/N_0 = 2e^{-\lambda(T_{1/2}+t)} \quad (4)$$

This (4) is the relation equation between T1/2 and

N/N0 & λ.

Take both sides of (4) logarithm

$$\lambda = \frac{-LN(N/N_0)}{T_{1/2}+t} \quad (5)$$

This (5) is the relation equation λ between T1/2 and N/N0.

Because $N = N_0 e^{-\lambda t}$ (6)

And $A = A_0 N_0 e^{-\lambda t}$ (7)

Has $A = \frac{N}{N_0} A_0$ (8)

And $A = \lambda N$ (9)

These are two radioactivity equations.

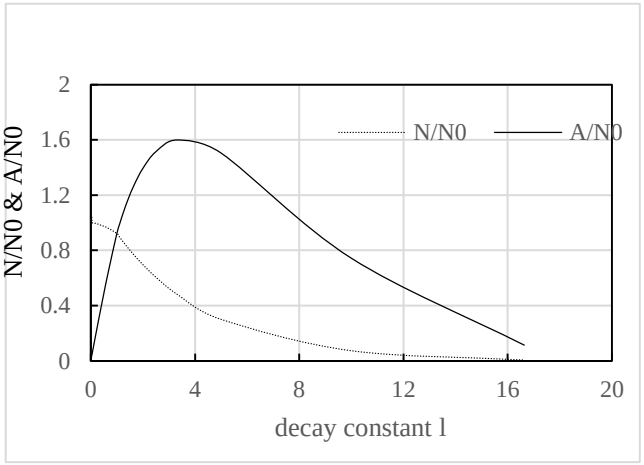

Figure 1 the relationship between N/N0 & A and decay constant.

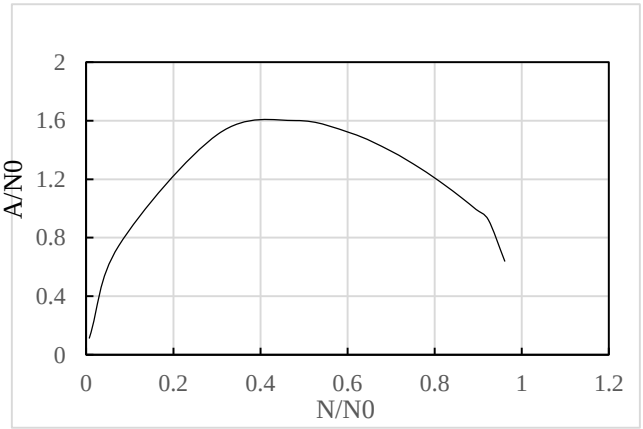

Figure 2 the relationship between A and N/N0.

As Figure 3 the λ in D wave molecule decreases when τ increases. Meantime T1/2 is in proportion to life. When life increases it increases as well. When life is 0.2s half-life period is 0.18s. When the life is 0.4s the one will be 0.26s then the life is 0.6s, 0.8s and 0.9s the one will be 0.4s, 0.58s and 0.6s respectively. The more life is the more half-life period will be exist. It is not the half of life time it is a little smaller than life time. There is about 0.2~0.3 times difference between them. On the contrary if half-life period decreases the life decreases too. They could be reverted. But it is less than life. The feature λ is infinite bigness if life is infinitesimal. Then if life is 0.2s it will be 4.8; if life is 0.4s、0.6s、0.8s and 0.9s it becomes 2.4, 1.6, 1.2 and 1.1. The feature decreases gradually with life increasing. (12) Is the equation between T1/2 and τ?

Because $T_{1/2} = \frac{LN2}{\lambda}$ (10)

And $\tau = \frac{1}{\lambda}$ [1] (11)

Has $T_{1/2} = 0.693\tau$ (12)

Above is the equation between T1/2 and τ.

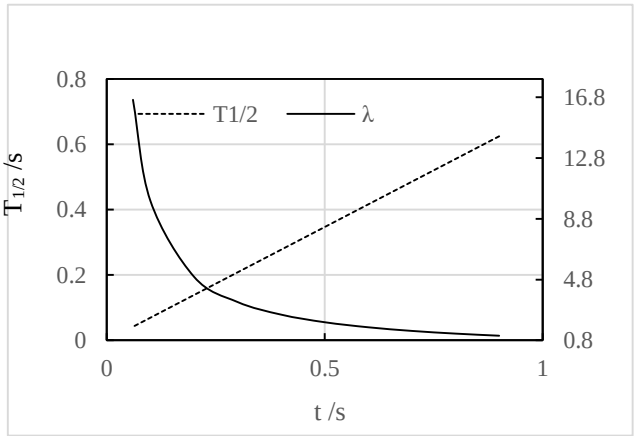

Figure 3 the relationship between half-life period T1/2、feature constant λ and life τ in D wave molecule.

As Figure 3 the half-life is in proportion to life while delay constant is negative proportion to life. The lower life has higher delay constant here. So

we choose the lower one for high N0/N. It can be found whether its use is too big. All the curves are consistent with equation (9) and (10). The decay constant λ reverses to life. They reverse to each other. That is an important feature. When we research long λ materials to use in quantum computer CPU we should find the short life ones for normal use. On the contrary the short λ has long life to maintain longer and continuous use because it has longer life. Meantime the half period life is in proportion to life. All the high technological achievement derived from it. So the research should be put to this key turning out time to improve its application. Big data and cloud computing will be main task in future. All the trace is controlled by computer and all the service will have to chase computer. So the computer ability has been urgent point for us to exceed industrious demand. This is the destination of this paper.[3] so in this study the two factors has been researched to look for the internal link among them. It is clarified that they have similar trend in no proportional. Meantime the feature and new photons is researched too. That they are increasing function is found here. There into the feature is linear relation with life while the new photons particle is nonlinear.

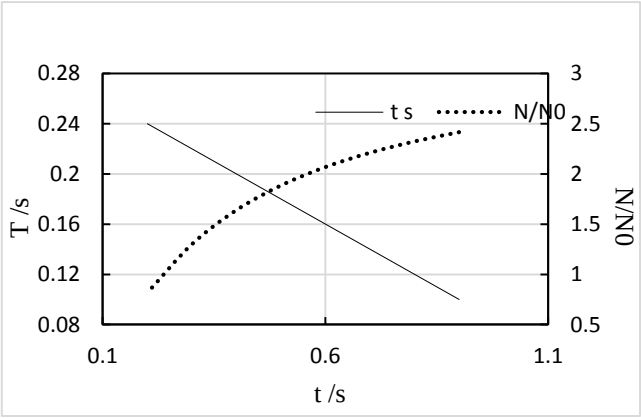

Figure 4 the relationship between time T1/2、N/N0 and life τ in D wave molecule.

As Figure 4 the time in D wave molecule will decrease with increasing life τ. N/N0 is increasing with increasing life. It expresses that passing time will be small if life is big. In invert life is small if passing time is big. They could be reverted relationship. This is a new find found in this study. This will need to further search in the future and confirm it more again. Another one is with increasing life N will be increasing too. That corresponds the theoretical knowledge as well. It fits to the same to half-life period well.

3 Conclusions

The first factor is radioactivity and then N/N0. It will be maximum to 1.7 at the 0.22 years ie 2.64 months with increasing decay constant at 3 of the decay constant. The radioactivity increases to the same one and then decreases at 1.2 times of N/N0. It is old after 0.22 years.

The half-life period and life can be not in proportional. They are reverted relationship. The life and passing time can be not in proportional as well. That needs to research further more in future. These two new finds has been acquired in this paper to cause scientific researcher attentions and think over.

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