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Conditions Within The Nucleus Nadi, Nagi, $\overline{m}_{di}$, $\overline{m}_{gi}$ And Nuclear Energy Density And The Electric Field Parameters

9.1. Nadi, Nagi, $\overline{m}_{di}$, $\overline{m}_{gi}$ parameters

By (7.2), charged elementary particles in the fluctuation, the spin track movement in the direction of comprehensive force analysis and calculation results show that charged particle in electric and magnetic field force, nuclear power field force, under the action of centrifugal force is along the wave vector rail inside diameter automatic shrinkage in the center of the trend. From figure 7.1 and figure 7.1 within the nucleus of the high and low particles spiral loop combination structure can also be seen in: each layer low-energy particles spiral ring of the spin track occupied space should be minimal, get recently, and not overlap. 2 ~ 5 layers of each pair of high and low particles spiral ring on the inside of the spin track Rθgi(0), Rθdi(0) in also is such. All high, low-energy particle spiral ring in addition to the first layer, the quantum fluctuations of Nadi, Nagi shall take natural number.

Refer to section 7.1 of the nucleus kernel forces forming principle, by figure 9.1 low-energy particles spiral ring layer combination that: the bottom low-energy particles spiral ring in excess πd- both in the spin track intersec ting in the formation of ampere force can cover the economical and the upper surplus high and low π± muon solenoid ring particles of the axial electric field force, should be comprehensive comparison a, b, c, d,... each boundary point, internal non-oil imports all the ampere force and comprehensive relationship between the size of the axial electric field force and. That as space limit set of geometric conditions, by figure 9.1, the first a1< 180°, if by three same radius. Close packing of the cylinder is a1= 150 °, so, a1 scope is: 180° > a1 > 150°.

According to the set position and fluctuation, the relationship between the spin track parameters, low-energy particles spiral ring of n side by side, we have:

$$\begin{cases} n\overline{R}_{\alpha b2} - R_{\alpha 2}\sin\alpha_2 = (n+1)\overline{R}_{\alpha b1} - R_{\alpha 1}\sin\alpha_1 & (9.1-1) \\ R_{\theta 02} - R_{\theta 01} = R_{\alpha 2}\cos\alpha_2 - R_{\alpha 1}\cos\alpha_1 & (9.1-2) \end{cases}$$

Will (8.1), (8.2) and (8.4) into (9.1) equations, to: $K_d = \beta_2\overline{m}_{d2} \big/ \beta_1\overline{m}_{d1}$ Checking:

$$\begin{cases} \dfrac{\sin\alpha_2}{\sqrt{N_{\alpha d2}}+\cos\alpha_2} = \dfrac{1}{\sqrt{N_{\alpha d2}-1}}\left[n - K_d\left(n+1-\dfrac{\sin\alpha_1\sqrt{N_{\alpha d1}-1}}{\sqrt{N_{\alpha d1}}+\cos\alpha_1}\right)\right] & (9.2-1) \\ \dfrac{\cos\alpha_2}{\sqrt{N_{\alpha d2}}+\cos\alpha_2} = 1-\dfrac{K_d\sqrt{N_{\alpha d1}^2-N_{\alpha d1}}}{(\sqrt{N_{\alpha d1}}+\cos\alpha_1)\sqrt{N_{\alpha d2}-1}} & (9.2-2) \end{cases}$$

By (9.2-2), to:

$$\cos\alpha_2 = \sqrt{N_{\alpha d2}}\left[\frac{\sqrt{N_{\alpha d2}-1}(\sqrt{N_{\alpha d1}}+\cos\alpha_1)}{K_d\sqrt{N_{\alpha d1}^2-N_{\alpha d1}}}-1\right] \qquad (9.3)$$

Simultaneous equations (9.2) to:

$$\frac{1}{(\sqrt{N_{\alpha d2}}+\cos\alpha_2)^2} = \frac{1}{N_{\alpha d2}-1}\left\{\left[n - K_d\left(n+1-\frac{\sin\alpha_1\sqrt{N_{\alpha d1}-1}}{\sqrt{N_{\alpha d1}}+\cos\alpha_1}\right)\right]^2 + \left[\sqrt{N_{\alpha d2}-1}-\frac{K_d\sqrt{N_{\alpha d1}^2-N_{\alpha d1}}}{\sqrt{N_{\alpha d1}}+\cos\alpha_1}\right]^2\right\} \qquad (9.4)$$

Will type (9.3) into (9.4), to:

$$\frac{K_d\sqrt{N_{\alpha d1}^2-N_{\alpha d1}}}{\sqrt{N_{\alpha d1}}+\cos\alpha_1}=\sqrt{N_{\alpha d2}}\left\{\left[n-K_d\left(n+1-\frac{\sin\alpha_1\sqrt{N_{\alpha d1}-1}}{\sqrt{N_{\alpha d1}}+\cos\alpha_1}\right)\right]^2+\left[\sqrt{N_{\alpha d2}-1}-\frac{K_d\sqrt{N_{\alpha d1}^2-N_{\alpha d1}}}{\sqrt{N_{\alpha d1}}+\cos\alpha_1}\right]^2\right\}^{1/2} \quad (9.5)$$

From figure 9.1, the upper and the lower low-energy particles spiral ring inlaid space relationship, equations (9.1) and (9.5) that the mathematical physics graphics meaning is: the upper low-energy particles spiral ring should be staggered as far as possible close to the lower, but in a, b, c, d,... Each point can only as far as possible close to, can't tangent or intersection. So we must in the 180° > a1 >150° range, solution (9.5), is on behalf of the rail tangent or position of the intersection of equations Nad2 the biggest natural number, add 1, make it become no equation, such ability is in recently, and not tangent or intersection, and the inner and outer rail left electric dipole rotation and axial clearance swing adjustment of space.

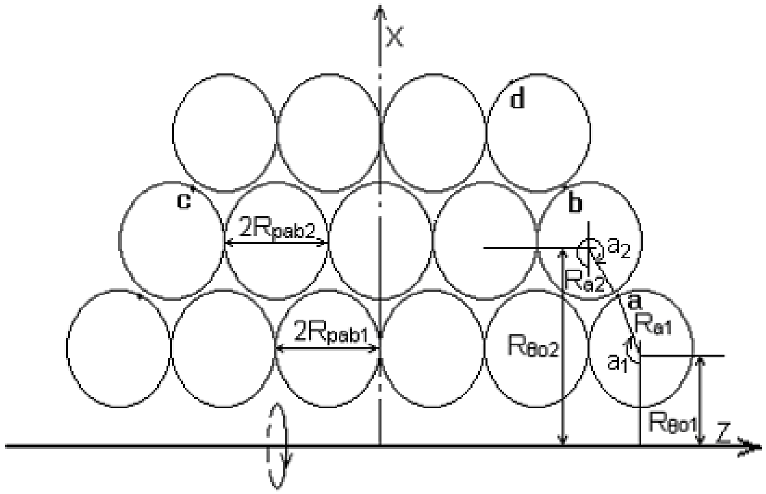


Figure 9.1 low-energy particles in the nucleus of solenoid ring inlaid portfolio

By (6.2 1), (8.1) and (8.2), a pair of high and low particles spiral ring should be on the inside of the spin track closely adjacent, but can't overlap, we have:

$$\begin{cases} R_{\theta di(0)}=\dfrac{h\sqrt{N_{\alpha di}^2-N_{\alpha di}}}{2\pi\beta_{di}c\overline{m}_{di}(\sqrt{N_{\alpha di}}+1)} & (9.6-1) \\ R_{\theta gi(0)}=\dfrac{h\sqrt{N_{\alpha gi}^2-N_{\alpha gi}}}{2\pi\beta_{gi}c\overline{m}_{gi}(\sqrt{N_{\alpha gi}}+1)} & (9.6-2) \end{cases}$$

Through simulation, we must make Rθgi(0) is slightly larger than the Rθdi(0). By (7.3), each layer, low-energy particle spiral ring in the number of protons is equal to the number of neutrons are even, under the situation of the total magnetic 0 condition is:

$$K_{mui}=\frac{\overline{m}_{gi}}{\overline{m}_{di}}=\frac{2\oint\frac{N_{\alpha gi}-1}{(\sqrt{N_{\alpha gi}}+\cos\alpha)^2}d\theta}{\oint\frac{N_{\alpha di}-1}{(\sqrt{N_{\alpha di}}+\cos\alpha)^2}d\theta} \quad (9.7)$$

Obviously, by figure 7.5, (9.7), too: when the layer, low-energy particle spiral ring number of protons equals the number of neutrons are even, high, low π± source energy relationship is:

$$6\overline{m}_{gi}+8\overline{m}_{di}=20\overline{m}_{d1} \quad (9.8)$$

Will Kmui value generation into (9.8), to:

$$\overline{m}_{di}=\frac{20\overline{m}_{d1}}{6K_{mui}+8} \quad (9.9)$$

By equations (9.9) and (9.2), (9.5) in Kd and can be expressed as:

$$K_d = \frac{\beta_{di+1}(6K_{mui}+8)}{\beta_{di}(6K_{mui+1}+8)} \quad (9.10)$$

To sum up, within the nucleus Nadi, Nagi, $\overline{m}_{di}$, $\overline{m}_{gi}$, parameters such as simulation program is as follows:
1. Shilling (9.5) in type Kd = 1, Nad1= Nag1 = 34/13, n = 5, generation of (9.5) in type, too: Nad2 =15 is the largest natural number, at this moment: a1 = 160.5441181°

2. Take Nad2 = 16, generation of (4.9) in type, have β_{d2} . Behind a Kmu2 = 1.95, (with the calculation results are expected to), and (9.9), (9.7) in type, have $\overline{m}_{d2}$, $\overline{m}_{g2}$ value.

3. Make Nag2 = 48, generation of (4.9) in type, have βg2. Will Nad2、βd2、 $\overline{m}_{d2}$, Nag2, βg2, $\overline{m}_{g2}$, respectively into (9.6-1), (9.6-2), to: Rθd2(0)=3.25289×10-15m, Rθg2(0)=3.22557×10-15m， Rθg2(0)<Rθd2(0), obviously not appropriate.
4. Adjust Nag2 = 49, repeat 3 calculation procedure, to: Rθg2(0)=3.26392×10-15m, slightly larger than the Rθd2(0)=3.25289×10-15m, this is question.
5. Will Nad2 = 16, Nag2 = 49, generation of (9.7) in type, too: Kmu2 = 1.95655948
6. Repeat 2 ~ 4 calculation program: Rθd2(0)=3.25939×10-15m， Rθg2(0)=3.25948×10-15m, the result still. According to (7.3) and the calculation procedure, may have other relevant parameters:
βd2=0.998751741 Uπ–=-2.605996272×10-26J/T
$\overline{m}_{g2}$ =6.550745472×10-28Kg $\overline{m}_{d2}$ =3.348094213×10-28Kg

7. The βd2, βg2, $\overline{m}_{g2}$, $\overline{m}_{d2}$ value, again into (9.10), to: Kd=1.012934831. To Nad1=34/13, Nad2=15, generation of (9.5) in type, too: a1=158.4362343°, than estimated value is small. If Nad2 = 16 generation into the duplication in calculation, this equation is still no solution. By the same token, if for n=1~ 7 also have no solution.

8. Reference 1 ~ 7 calculation procedure, we find the other layers of Nadi, Nagi, $\overline{m}_{di}$, $\overline{m}_{gi}$ parameters, such as shown in table 9.1.
(note: the second layer of Rθg2(0) is only slightly larger than the Rθd2(0) value, even electric dipole rotation space is not enough, so adjust take Nad2 = 16, Nag2 = 50)
By (8.19), (9.7) ~ (9.9), table 9.1 the results see: within the nucleus, every layer, low-energy particle spiral ring of high and low π± source energy and the formation of the spin direction magnetic moment is constant, only with the spin track quantum fluctuations in interest of Nai. Each layers between the high and low π± both original energy and strength are not the same. Number of protons is equal to the number of neutrons and are even the nucleus of the fluctuation, the movement of the spin direction of the original total energy for $\sum 5A_i\overline{m}_{d1}$, (Ai for each layer of the nuclear), and magnetic moment is zero.

If the protons and neutrons is not even, should refer to section 7.1, first according to the actual total energy and strength of the nucleus value simulation. Determination alone protons, neutrons "decentralized" of the π± mesons in every particle of solenoid the distribution state of link layer, and calculated separately by the state's high and low π± muon accumulative total energy niv original magnetic moment. (see chapter 11, 12).

Conditions within the nucleus Nadi, Nagi, $\overline{m}_{di}$, $\overline{m}_{gi}$, parameters such as simulation results table 9.1

Spiral ring layer i	1	2	3	4	5
Nad i Nag i	34/13 34/13	16 50	34 114	58 203	88 316
×10–15m Rθd i (0) Rθg i (0)	0.83688 0.41844	3.25899 3.29768	5.19382 5.20204	7.08675 7.09552	8.96202 8.96994
×10–28Kg $\overline{m}_{di}$, $\overline{m}_{gi}$	3.304461327 6.608922654	3.348508962 6.550192474	3.325343178 6.581080186	3.316814573 6.592451659	3.312652282 6.598001381
Kmu i	2	1.956151991	1.979067974	1.987585231	1.991757909
×10–26J/T Udπ– Ugπ+	-3.25301628 1.626508137	-2.605673491 1.302836745	-2.578713629 1.289356815	-2.569286142 1.284643071	-2.56485582 1.282427909

9.2 Nuclear energy, the electric field parameters
Within the nucleus
9.2.1 Conditions within the nucleus of each particle spiral ring of Nuclear number density

By (1.3-2), (1.6), a low-energy πd± muon spin elliptical orbit, the average radius, which is elliptic half axis of $\overline{R}_{\theta di}$ for:

$$\overline{R}_{\theta di} = \frac{hN_{\alpha di}}{2\pi\beta_i c\overline{m}_{di}\sqrt{N_{\alpha di}-1}} \qquad (9.11)$$

Experiments have confirmed: nuclear and excess charge are within the nucleus of density distribution, boundary is diffuse layer, see figure 7.3. When we are in carbon conditions within the nucleus of the two side by side particles spiral ring in 12 nuclear, make layer, see figure 7.6, we can based on the average radius of $\overline{R}_{\theta di}$, related parameters according to table 9.1, to the middle of the inner particles spiral ring density for the principle, such as saturated layer, step by step, one by one particle spiral ring outside push each layer of the nucleon.

Conditions within the nucleus nucleon density, the number of each layer of nuclear should be natural, and they must all be even. Because each layer of the βi, $\overline{m}_{di}$ value approximation, (9.11), the $h / 2\pi\beta_i\overline{m}_{di}c$ can be regarded as constant. Set each layer particles spiral rings of nuclear along the spin track average perimeter of $2\pi\overline{R}_{\theta di}$ for density distribution, such as each particle spiral rings of nuclear for Ai, is:

$$A_i = \frac{6N_{\alpha di}\sqrt{N_{\alpha d1}-1}}{N_{\alpha d1}\sqrt{N_{\alpha di}-1}} \qquad (9.12)$$

To Nadi = 34/13, 16, 34, 58, 88 respectively into (9.12), results in the most close to the even number of each layer to particles spiral ring should fill the number of nuclear respectively: 6, 12, 18, 22, 28.

9.2.2 Within the nucleus high, low-energy particle spiral ring net with π± mesons in potential can parameters

Refer to section 8.2 conditions within the nucleus net with π± muon electric field energy equation, according to table 9.1 determine each particle of spiral rings in high and low π± muon quantum fluctuations of number Nadi, Nagi, original energy $\overline{m}_{di}$, $\overline{m}_{gi}$, value, high in nucleus, low-energy particles spiral ring net with π± mesons in potential can parameter calculation procedure is as follows:

Type A each, low-energy particles spiral ring high within the nucleus Net with π± mesons in potential being access (unit: v) table 9.2

j / Nai	0 1 2 3 4 5 6						
88 316	144784.2304 y. 151861.9825		141618.5269 z. 148192.4244				
58 203		v. 177326.8464 u. 187584.5213		x. 166483.1247 w. 174745.2164			
34 114	o. 234938.4252 m. 252547.2638		q. 222384.0614 n. 236860.6565		t. 194154.5797 s. 203024.7476		
16 50		h. 337957.7853 g. 366998.7106		k. 279802.5875 i. 293490.8388		r. 219311.3930 p. 223733.7219	
34/13 34/13	b. 978319.7079 a. 1956639.416		d. 624855.4140 c. 771494.0723		f. 385747.0362 e. 416814.5755		l. 271894.2180 j. 282481.5199

Type B each, low-energy particles spiral ring high within the nucleus Net with π± mesons in potential being access (unit: v) table 9.3

j / Nai	0 1 2 3 4 5						
88 316		v. 143972.9349 u. 150919.0911					
58 203	s. 178836.7777 q. 189396.5791		t. 173016.7819 r. 182445.3143				
34 114		n. 231601.1851 l. 248335.1566		p. 209202.2517 o. 220829.7834			
16 50	f. 348109.8205 e. 380656.7922		j. 312143.6925 h. 333443.6084		m. 247821.4242 k. 255901.5851		
34/13 34/13		b. 830297.5310 a. 1249710.828		d. 481404.0368 c. 543788.4359		i. 319619.5653 g. 336991.4616	

1. Will AANadi, Nagi value respectively into (4.9), calculate each layer π± both wave velocity coefficient βdi, βgi value.

2. Will Nadi, Nagi, $\overline{m}_{di}$, $\overline{m}_{gi}$, βdi, βgi generation into (8.2), respectively is Rθ0di, Rθ0gi value.

3. According to figure 7.1 and figure 7.2, decide within the nucleus of A and B type structure, by (8.5) and (8.6) equations of each coefficient to the position of the high, low-energy particles spiral ring Kegij = Kedij = 0 ~ 6 of A natural number.

4. Will corresponding Nadi, Nagi, $\overline{m}_{di}$, $\overline{m}_{gi}$, βdi , βgi and Kegij, Kedij value, respectively into (8.9-1), (8.9-2) type, you can work out A and B type all high in nucleus, low-energy particles spiral rings, each net with π± violation of electric parameters, see table 9.2 and table 9.3. English letters both on behalf of the potential value of parameters in table size order, also as the column parameter in subsequent analysis and calculation the location of the code used (the same below).

9.2.3 The application of the calculation parameters within the nucleus

Because conditions within the nucleus protons and neutrons are even a, its total magnetic is 0, so (9.7) ~ (9.10) and calculation of $\overline{m}_{di}$, $\overline{m}_{gi}$ in table 9.1, the original data is nuclear energy within each layer particles spiral ring of equal number of protons, neutrons and are even under the condition of only. From the nuclide commonly used data sheet (4) check: in nature can be stable in the entire nucleus, in addition to the $^{3}_{2}He$ nuclear, internal number of neutrons are greater than the number of protons. Unstable nuclei, from nuclear power charge + number 29 of $^{58}_{29}Cu$ nucleus, the internal number of neutrons are greater than the number of protons.

Extra neutron in pairs only will be the "decentralized" all of the high and low π± violation according to the figure 7.4 and figure 7.5 a and b solutions into the same layer particles spiral rings, and magnetic moment is zero. So, from the table 9.1 $\overline{m}_{di}$, $\overline{m}_{gi}$, original energy data, calculate each pair of extra neutron in 2, 3, 4, 5 particles spiral ring has the relative 1 layer the original energy increment of $\Delta\overline{m}_{ni}$ is: (if lack of neutron log, $\Delta\overline{m}_{ni}$ take negative, as shown in the figure 11.1) on the right side:

$$\Delta\overline{m}_{ni} = 2(\overline{m}_{di} - \overline{m}_{gi}) + 6(\overline{m}_{di} - \overline{m}_{d1}) \qquad (9.13)$$

Similarly, without changing nuclear magnetic and nuclear power load distribution condition, when each pair of high or low π± violation in the particles spiral ring stimulated or transition between layers, will also lead to π± muon original energy changes. We with $\Delta\overline{m}^{\pm}_{gi}$, $\Delta\overline{m}^{\pm}_{di}$, said, (see chapter 11 ~ 14 calculating examples).

Comprehensive table 9.1 and table 9.2 and table 9.3 the calculation of the parameters, we can not only according to the total energy conservation, atoms, the total energy and nuclear magnetic moment, simulation, calculation of a nucleus within the particles spiral ring layer net with π± mesons in the distribution of state, but also can judge of extra neutron distribution level, or paired π± mesons, single π± both inspire and transition. (see chapter 11 ~ 14 calculating examples).

10. Nuclear force equation and parameter calculation

10.1. Electric field force equation and Parameter calculation within the nucleus

Conditions within the nucleus every high, low-energy particle spiral ring in excess of π± violation, the spin track movement, from the center of a nucleus in Re, electric field force in spin rail axial component Feθdij , is a very complex variables, we still need integral equation to calculate, see figure 10.1.

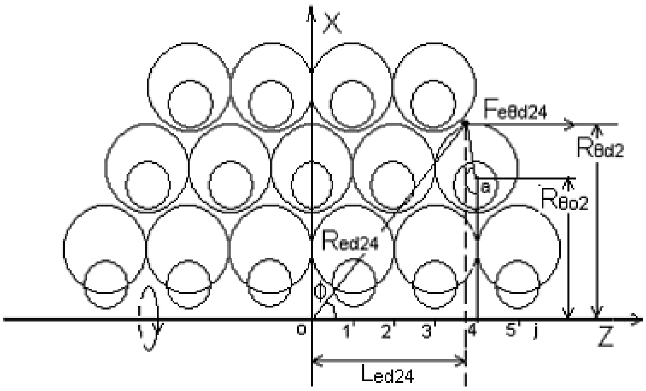


Figure 10.1 π± muon within the nucleus formation of electri Field force diagram

According to equations (8.9) in the nucleus in π± muon derivations of the equations of potential can process, by (8.3), π± muon spin track along the length of the spin direction Lθi is given as:

$$L_{\theta i} = \frac{2\pi R_{\theta 0i}\sqrt{N_{\alpha i}}}{\sqrt{N_{\alpha i}-1}} \qquad (10.1)$$

Each particle spiral ring each of the surplus of π± muon relative nuclei formed in the center of the electric field force, along the spin axis and the component of Feθi , suppose particles spiral rings surrounded by excess nuclear power charge for Kei, while its general for:

$$F_{e\theta i}=\frac{K_{ei}e^{2}}{4\pi\varepsilon_{0}}\oint\frac{R_{\theta i}\cos\phi}{L_{\theta i}R_{ei}^{2}\sqrt{1-\left(\frac{v_{\theta i}}{c}\right)^{2}}}d\theta$$

(10.2)

$$\begin{cases}\cos\phi=\frac{L_{eij}}{R_{ei}} & (10.3-1)\\ L_{egij}=\frac{K_{edij}R_{\theta 0di}}{\sqrt{N_{\alpha di}-1}}-\frac{R_{\theta 0gi}\sin\alpha}{\sqrt{N_{\alpha gi}}+\cos\alpha} & (10.3-2)\\ L_{edij}=\frac{K_{edij}R_{\theta 0di}}{\sqrt{N_{\alpha di}-1}}-\frac{R_{\theta 0di}\sin\alpha}{\sqrt{N_{\alpha di}}+\cos\alpha} & (10.3-3)\\ R_{egij}^{2}=L_{egij}^{2}+R_{\theta gi}^{2} & (10.3-4)\\ R_{edij}^{2}=L_{edij}^{2}+R_{\theta di}^{2} & (10.3-5)\end{cases}$$

Similarly, by figure 10.1, (8.4), to: high and low particles spiral ring of Leij , cosΦ, Rei , stores to see the relationship between the equations (10.3). Will be respectively equations (10.3) into (10.2), to:

$$\begin{cases}F_{e\theta gij}=\oint\frac{K_{ei}e^{2}\sqrt{N_{\alpha gi}-1}\left[\frac{K_{edij}R_{\theta 0di}\left(\sqrt{N_{\alpha gi}}+\cos\alpha\right)}{R_{\theta 0gi}\sqrt{N_{\alpha di}-1}}-\sin\alpha\right]\left(\sqrt{N_{\alpha gi}}+\cos\alpha\right)}{8\pi^{2}\varepsilon_{0}R_{\theta 0gi}^{2}\left\{\left[\frac{K_{edij}R_{\theta 0di}\left(\sqrt{N_{\alpha gi}}+\cos\alpha\right)}{R_{\theta 0gi}\sqrt{N_{\alpha di}-1}}-\sin\alpha\right]^{2}+N_{\alpha gi}\right\}^{\frac{3}{2}}\sqrt{1-\frac{\beta_{gi}^{2}}{N_{\alpha gi}}}}d\theta & (10.4-1)\\ F_{e\theta dij}=\oint\frac{K_{ei}e^{2}\sqrt{N_{\alpha di}-1}\left[\frac{K_{edij}\left(\sqrt{N_{\alpha di}}+\cos\alpha\right)}{\sqrt{N_{\alpha di}-1}}-\sin\alpha\right]\left(\sqrt{N_{\alpha di}}+\cos\alpha\right)}{8\pi^{2}\varepsilon_{0}R_{\theta 0di}^{2}\left\{\left[\frac{K_{edij}\left(\sqrt{N_{\alpha di}}+\cos\alpha\right)}{\sqrt{N_{\alpha di}-1}}-\sin\alpha\right]^{2}+N_{\alpha di}\right\}^{\frac{3}{2}}\sqrt{1-\frac{\beta_{di}^{2}}{N_{\alpha di}}}}d\theta & (10.4-2)\end{cases}$$

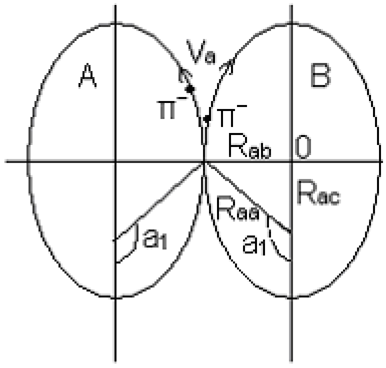
Refer to 9.2 electricity field energy parameters of calculation program: A and B type all high in nucleus, low-energy particles spiral rings in each net with π± muon along the spin track the electric field of the axial force parameters see table 10.1 and table 10.1. (Kei values for the time being).

Type A nucleus in all high, low-energy particle spiral loop net with π± violation Along the spin track the axial electric field force parameters calculation results table (unit: Newton N) table 10.1

j \ Nai	0 1 2 3 4 5 6					
88 316	y.		z.			
58 203		v. 0.4498676718 u. 0.5389700316		x. 1.116732986 w. 1.307093887		
34 114	o. m.		q. 1.749312461 n. 2.156310585		t. 2.327181743 s. 2.715754808	
16 50		h. 2.957833954 g. 3.939440164		k. 5.021374766 i. 6.042344046	r. 4.023396124 p. 4.460667800	
34/13 34/13	b. a.		d. 26.27706782 c. 47.21591785		f. 11.80397946 e. 14.76239942	l. 6.156321505 j. 6.887946657

10.2. low-energy particles in the nucleus of solenoid Ring rail tangent equation and parameter calculation Of ampere force

From in figure 7.1 and figure 7.2 see: economical adjacent low-energy particles spiral ring of πd± mesons, will remain fixed interval in the same wave, spin speed staggered successively by tangent track; When va→c, the fluctuation of electricity, the direction of the magnetic field perpendicular to the wave track, despite the strength is very big, but by (2.1), (2.2), the fluctuation track the tangent direction of electric and magnetic field force is very weak; Only in the spin current direction orbit can have significant interaction, because Kr＝10-4, Kr•＝8×10-15 orders of magnitude, so can become a great track current ampere force itself. particles spiral ring of πg+ muon electric field force each other.
By (1.3 1) type, figure 10.2, the two adjacent side by side A and B low-energy particles spiral ring rail on the intersec ting, fluctuation elliptical orbit radius Ra, half axis Raa, half focal length Rac, half Rab short axis, and a1 value equation is as follows:



$$\begin{cases} R_\alpha = \dfrac{R_{\theta 0}}{\sqrt{N_\alpha} + \cos\alpha} & (10.5-1) \\ R_{\alpha a} = \dfrac{R_{\theta 0}\sqrt{N_\alpha}}{N_\alpha - 1} & (10.5-2) \\ R_{\alpha c} = \dfrac{R_{\theta 0}}{N_\alpha - 1} & (10.5-3) \\ R_{\alpha b} = \dfrac{R_{\theta 0}}{\sqrt{N_\alpha - 1}} & (10.5-4) \\ \alpha_1 = \arccos\dfrac{-1}{\sqrt{N_\alpha}} & (10.5-5) \end{cases}$$

Figure 10.2 fluctuations in elliptical orbit parameters relationship

Type B all high in nucleus, low-energy particles spiral net with π± mesons in ring Along the spin track the axial electric field force parameters calculation results table (unit: Newton N) table 10.2

j / Nai	0 1 2 3 4 5 6							
88 316		v. 0.2424503354 u. 0.2815204385						
58 203	s. q.		t. 0.8356753262 r. 0.9917450997					
34 114		n. 0.9881705354 l. 1.242583809		p. 2.183956711 o. 2.621118729				
16 50	f. e.		j. 4.654238992 h. 5.908301428		m. 4.647168885 k. 5.33996127			
34/13 34/13		b. 33.60158953 a. 47.21591785		d. 17.42218092 c. 24.62528602		i. 8.351933465 g. 9.747158235		

Note: table 10.2 a column position data for the two side by side of high-energy

In the fluctuation, the spin track tangent, side by side A and B in low-energy particle spiral ring net with πd- both electric dipole rotation diameter 2KrRa for a—a`、b—b` line, see figure 10.3. In the intersection of plane, the current forming principle as shown in figure 10.3: every πd-violation by a—a`、b—b` line intersection of plane, is equivalent to a load of charged particles from a to a ` and from b to b ` movement; Formed from a` to a from b to b's current Ia, Ib. When A and B two pairs of high and low combination of particles spiral rings, because of the spin axis of the electric field repelling force, are in A state of tension, as shown by the figure 10.4, as long as the Ia, Ib ampere force is greater than the comprehensive electric field between repelling force, can prevent them from further stretching to disconnect. At this time:

$$\begin{cases} \phi = \alpha_1 - 90^\circ & (10.6\text{-}1) \\ L_b = 4K_r \overline{R}_\alpha \sin\phi & (10.6\text{-}2) \end{cases}$$

Principle of electrodynamics, each πd- both in tangent track along the spin direction of current strength I, magnetic field intensity B respectively:

$$\begin{cases} I = \dfrac{-e\beta c}{2\pi \overline{R}_I \sqrt{N_\alpha}} & (10.7-1) \\ B = \dfrac{I u_0 \cos 2\phi}{2\pi L_b} & (10.7-2) \end{cases}$$

Will type (8.10) into (10.7), to:

$$I = \frac{-e\beta c\sqrt{N_\alpha - 1}}{2\pi R_{\theta 0} N_\alpha} \qquad (10.8)$$

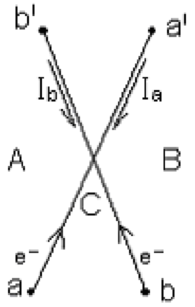
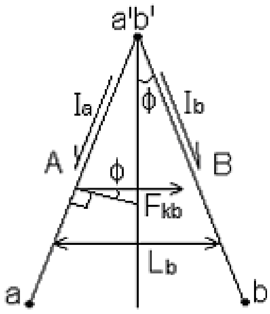


Figure 10.3 πd-both within the electric dipole rotation plane current forming principle diagram

Because a` b` point Ia and Ib current track overlap, by (3.4), calculateKr=8.0x10-15, so, each orbit between tangent Ia and Ib current Fkb of ampere force is:

$$F_{kb} = \int_{Kr\bullet\bar{R}\alpha}^{2Kr\bar{R}\alpha} IB\cos\phi dl = \int_{Kr\bullet\bar{R}\alpha}^{2Kr\bar{R}\alpha} \frac{u_0 I_a I_b \cos\phi\cos 2\phi}{4\pi\sin\phi(2K_r\bar{R}_\alpha)} d(2K_r\bar{R}_\alpha) \qquad (10.9)$$



Between figure 10.4 Ia and Ib current ampere force diagram

Will (10.7-1) and (10.9) in type integral to:

$$F_{kb} = \frac{e^2\beta^2(N_\alpha - 1)\cos\phi\cos 2\phi}{4\pi\varepsilon_0(2\pi R_{\theta 0})^2 N_\alpha^2 \sin\phi} \ln(2K_r\bar{R}_\alpha)\Big|_{Kr\bullet\bar{R}\alpha}^{2Kr\bar{R}\alpha} \qquad (10.10)$$

For economical adjacent low-energy particles spiral rings, each spin track cycle have Na tangent track, so:

$$F_{kb} = \frac{e^2\beta^2(N_\alpha - 1)\cos\phi\cos 2\phi}{4\pi\varepsilon_0(2\pi R_{\theta 0})^2 N_\alpha \sin\phi} \ln(2K_r\bar{R}_\alpha)\Big|_{Kr\bullet\bar{R}\alpha}^{2Kr\bar{R}\alpha} \qquad (10.11)$$

From table 9.1 to determine the Nadi, $\overline{m}_{di}$ parameters, respectively into (4.9), (1.6), (10.5 5) type, find βi , Rθ0i , ai value; The βi , Nadi , ai value generation into (2.10), respectively, for Kri value; Finally by Fkb value (10.11), the results shown in table 10.3.

Low-energy particles spiral ring rail tangent place Ia and Ib current parameters of ampere force calculation results table table 10.3

Nadi / Parameters	34/13	16	34	58	88
$\overline{m}_{di}$ ×10-28Kg	3.304461327	3.348508962	3.325343178	3.316814573	3.312652282
βd i	0.9989866946	0.998751741	0.9987299178	0.9987219848	0.998718171
a˚	128.1955197	104.4775122	99.87496139	97.54509259	96.11937788
K ri×10-5	14.1733	6.36539	4.40105	3.37903	2.74688
Fkbi(牛)	14.26555772	26.21495095	19.10379436	14.8492151	12.09695581

10.3 Nucleus side by side in adjacent particles spiral ring the spin direction ampere force equation

For each pair of high and low particles spiral ring, the spin direction each net with π± muon form the current strength of AA Iθi , by (10.8), to:

$$I_{\theta i}=\frac{e\beta_i c\sqrt{N_{\alpha i}-1}}{2\pi R_{\theta 0i}N_{\alpha i}} \quad (10.12)$$

Because the ampere force between particles spiral ring current not only stronger than the nuclear field, rail tangent of ampere force much smaller; And inversely proportional to the distance between each other, the lower level between the smaller; So, we as long as the calculation between adjacent particles spiral ring current ampere force is enough, and to simplify the calculation. First of all, to $\overline{m}_{gi}=2\overline{m}_{di}=2\overline{m}_{d1}$, βi=1, the type (1.6) into (10.12), to:

$$I_{\theta i}=\frac{ec^2\overline{m}_i}{N_{\alpha i}h} \quad (10.13)$$

Set each of high, low-energy particle spiral loop net with πg+ number of mesons is Negij, net with πd- both for Nedij. Each of high, low-energy particle spiral loop net current ΔIθij , for high and low particles spiral rings contain net with π± muon formed in the spin direction current of algebra and:

$$\Delta I_{\theta ij}=\frac{ec^2\overline{m}_{di}}{h}\left(\frac{2N_{egij}}{N_{\alpha gij}}-\frac{N_{edij}}{N_{\alpha dij}}\right) \quad (10.14)$$

Side by side adjacent ampere force between two particles spiral ring current ΔFθbij, we can reference (10.7-2), (10.9) type simplifies calculation, to:

$$\begin{cases}\Delta B_{\theta ij}=\dfrac{u_0\Delta I_{\theta ij}}{2\pi(2R_{\alpha bi})} & (10.15-1)\\ \Delta F_{\theta bij}=\Delta I_{\theta ij}\Delta B_{\theta ij}(2\pi\overline{R}_{I\,i}) & (10.15-2)\end{cases}$$

To (8.10), (10.5-4), (10.14) and (10.15) into the equations:

$$\Delta F_{\theta bij}=\frac{e^2}{2\varepsilon_0 N_{\alpha di}^{1.5}}\left(\frac{\overline{m}_{di}c}{h}\right)^2\left(2N_{egi1}\frac{N_{\alpha di}}{N_{\alpha gi}}-N_{edi1}\right)\left(2N_{egi2}\frac{N_{\alpha di}}{N_{\alpha gi}}-N_{edi2}\right) \quad (10.16)$$

Each pair of high and low particles spiral rings, in addition to the atomic nucleus edge, it is the left and right sides adjacent particles spiral ring of ampere force interaction, therefore, can be made by the resultant force on both sides of the ΔFθbij said:

$$\Delta F_{\theta bij}=\frac{(e\overline{m}_{d1}c)^2}{2\varepsilon_0 h^2 N_{\alpha di}^{1.5}}\left(2N_{egi2}\frac{N_{\alpha di}}{N_{\alpha gi}}-N_{edi2}\right)\left[2\frac{N_{\alpha di}}{N_{\alpha gi}}(N_{egi1}-N_{egi3})-(N_{edi1}-N_{edi3})\right]$$

(10.17)

By (10.17), $K_{fb}=\dfrac{(e\overline{m}_{di}c)^2}{2\varepsilon_0 h^2 N_{\alpha di}^{1.5}}$, Nedi = 34/13, 16, 34, 58, 88. Generation into, Kfb respectively: (unit: Newton) 7.660711103、0.506281966、0.1634383828、
0.07335512162、0.03925079193

Will table 10.1 ~ 10.3 compared with the corresponding data, as well as after facing the nucleus internal structure parameters integrated computation verification and nucleus radioactive decay analysis of the principle of the calculation results show that low-energy particles between spiral ring current track side by side on the intersec ting oneself ampere force, the range is limited to track tangent $K_r\overline{R}_\alpha$ within the scope of minimal, and mutual attraction is quite large, and the comprehensive electric field within the nucleus repelling force just can be composed of a pair of phase equilibrium of the nuclear force. Side by side of ampere force between particles spiral ring current, only 1 layer must attend calculation, the other can be neglected.

10.4. Same layer adjacent low-energy particles spiral Ring the spin direction ampere force equation comparing The calculation results

By (10.8), each low-energy particles spiral ring net with πd- number of d -violation is Nei, the average current strength is Ii, by the (equations (10.15), (8.10), adjacent low-energy particles spiral ring the spin direction whole ampere force $\overline{F}_{bi}$ average parameter calculation equation is:

$$\overline{F}_{bi}=\frac{u_0 I_1 I_2(2\pi\overline{R}_{I\,i})}{2\pi(2R_{\alpha bi})}=\frac{e^2\beta_i^2 N_{e1}N_{e2}(N_{\alpha i}-1)}{8\pi^2\varepsilon_0 R_{\theta 0i}^2 N_{\alpha i}^{1.5}} \quad (10.18)$$

When we use integral method to calculate the Fbi of ampere force, because the spin direction of current intersec ting yuan in orbit on both sides of the parallel symmetric distribution, by (10.5-4), (10.8) and (10.18), to:

$$F_{bi} = u_0 I_1 I_2 \oint \frac{R_{\theta i}}{2\pi(2R_{\alpha bi} - 2R_{\alpha i}\sin\alpha)} d\theta$$

$$= \frac{e^2 \beta_i^2 N_{e1} N_{e2}}{16\pi^3 \varepsilon_0 R_{\theta 0i}^2 \sqrt{N_{\alpha i}}} \int_0^{2\pi/N\alpha} \frac{(\sqrt{N_{\alpha i}} + \cos\alpha)^2}{\frac{\sqrt{N_{\alpha i}} + \cos\alpha}{\sqrt{N_{\alpha i} - 1}} - \sin\alpha} d\theta \qquad (10.19)$$

The ratio is:

$$\frac{F_{bi}}{\overline{F}_{bi}} = \frac{N_{\alpha i}}{2\pi(N_{\alpha i} - 1)} \int_0^{2\pi/N\alpha} \frac{(\sqrt{N_{\alpha i}} + \cos\alpha)^2}{\frac{\sqrt{N_{\alpha i}} + \cos\alpha}{\sqrt{N_{\alpha i} - 1}} - \sin\alpha} d\theta \qquad (10.20)$$

(10.19) in the fluctuation, the spin track intersec ting in the interval of two current yuan→0, a discontinuous points, point in (10.11) - ampere force have been calculated and shown in table 10.3. We by Δai value insert (10.20) of integral upper and lower limits for:
a i0=2π(ai+Δa i)/360°Nai a ia=2π(360°+a i -Δa i)/360°Nai
Will be data generation in table 10.3 (10.20) in type, the simulation results shown in table 10.4.

Same layer adjacent low-energy particles spiral ring the spin direction ampere force equation $F_{bi} / \overline{F}_{bi}$ calculation results comparison table 10.4

Nai / Δai	34/13	16	34	58	88
2°	无解 There is no solution				
5°	4.59313587	6.797401516	7.055965601	7.153204956	7.1992218355
10°	2.786828821	3.4747556	3.560352022	3.592408519	3.607980361
30°	1.464674859	1.223998448	1.204626325	1.197666272	1.194335032
60°	0.9610648229	0.6086085346	0.5779770862	0.568871121	0.5615634465
100°	0.5770989581	0.3072239687	0.2856141877	0.2778747804	0.2741756391

From table 10.4 that: when Δai ≤30°, integral method of ampere force is greater than the overall average calculation of ampere force constants. So in (10.15-2) type of high and low particles spiral ring current overall ampere force, we take low-energy particles spiral ring current average radius of $\overline{R}_{Id1}$, and not take high, low-energy particle spiral ring of average. And, behind the readers will see: in nucleus kernel force balance verification calculation, although light conditions within the nucleus of the whole nuclear power field force, slightly greater than nuclear magnetic force, we still have plenty of reason to will them as stable nucleus.

At the same time, we also see that when 30°≤ Δai ≤60°, AA $F_{bi} / \overline{F}_{bi} \approx 1$, thus can speculate each layer particles spiral ring in nuclear and surplus of high and low π± both generally allow density. Surplus of high and low π± mesons, especially π^- violation, in neighboring particles spiral ring motion in orbit, affirmation is the proper interval staggered through the tangent track, respectively. So in micro particles adjacent spiral ring rail and the nearby on the intersec ting, current yuan should be discrete. When Δai≤30°, integral method of ampere force is meaningless.