

The Greatest Chemical Discovery That Was Ever Made The Jiang Periodic Table Of Elements

Jiang Chunxuan

Institute for Basic Research, Palm Harbor, FL 34682-1577, USA

And: P. O. Box 3924, Beijing 100854, P. R. China

jiangchunxuan@sohu.com, cxjiang@mail.bcf.net.cn, jcxuan@sina.com, Jiangchunxuan@vip.sohu.com,
jcxxxx@163.com

Abstract: Using the stable number theory we calculate the best electron configurations of the elements and not from experimental data[6-8]. We make the Jiang periodic table of the elements.

[Jiang Chunxuan. **The Greatest Chemical Discovery That Was Ever Made The Jiang Periodic Table Of Elements.** *Rep Opinion* 2017;9(4s):54-61]. ISSN 1553-9873 (print); ISSN 2375-7205 (online). <http://www.sciencepub.net/report>. 9. doi: [10.7537/marsroj0904s17.09](https://doi.org/10.7537/marsroj0904s17.09).

Keywords: chemical; discovery; Jiang; Periodic Table; Elements

In studying the stability of the many-body problem we suggest two principles [1-9].

(1) The prime number principle. A prime number is irreducible in the integers, it seems therefore natural to associate it with the most stable subsystem. We prove that 1, 3, 5, 7, 11, 23, 47 are the most stable primes.

(2) The symmetric principle. The most stable configuration of two prime numbers is then stable symmetric system in nature. We prove that 2, 4, 6, 10, 14, 22, 46, 94 are the most stable even numbers. The stability can be defined as long life and existence in nature, and instability as short life or non-existence in nature.

In this paper by using the prime number principle and the symmetric principle we calculate the best electron configurations of the elements. Total quantum number n and orbital quantum number l determine the best electron configurations of the elements

$n=1$	2	3	4	5	6...	
Electron shells:	K	L	M	N	O	$P...$
	$2(2l+1)=2$	6	10	14	18	22...
Electron subshells:	s	p	d	f	g	$h...$

An atomic subshell that contains its full quota of electrons is said to be closed. A closed s subshell ($l=0$) holds two electrons, a closed p subshell ($l=1$) six electrons, a closed d subshell ($l=2$) ten electrons, a closed f subshell ($l=3$) fourteen electrons, these subshells are the most stable, a closed g subshell ($l=4$) eighteen electrons is the most unstable. Using the symmetric principle it has been proved the $2(2l+1)=2, 6, 10$ and 14 are stable and $2(2l+1)=18$ is unstable. The s, p, d , and f subshells are stable and the g subshell is unstable[3].

Table 1 shows the best electron configurations of the elements. From 1 to 92 of the atomic numbers every subshell is stable. It has been proved that the last stable element that occurs naturally is uranium with an atomic number of 92 and there are only 92 stable elements in nature. Since $5g$ subshell is unstable, the elements 93-110 are unstable. Since $5g$ is unstable, $6s, 6p, 6d, 6f, 6g$ and $6h$ subshells are unstable. Therefore the elements 111-182 are unstable. Mendeleev electronic configuration of the elements is wrong[10] to see table 3.

Using the 1s, 2s, 3s, 4s and 5s of table 1 we make the Jiang periodic table of elements with five periods. Table 2 shows the relationship between the outermost subshell electron configurations and the Jiang periodic table. The Jiang periodic table reflects the order in which atomic orbitals are filled. The s orbitals are filled in the two rows. The p orbitals are filled in the six rows. The d orbitals are filled in the ten rows. The f orbitals are filled in the fourteen rows. The g orbitals are filled in the eighteen rows.

Table 1. The Best Electron Configuration of the Elements

Z	Sym	K			L			M			N				O				
		1s	2s	2p	3s	3p	3d	4s	4p	4d	4f	5s	5p	5d	5f	5g			
1	H	1																	
2	He	2																	
3	Li	2	1																
4	Be	2	2																
5	B	2	2	1															
6	C	2	2	2															
7	N	2	2	3															
8	O	2	2	4															
9	F	2	2	5															
10	Ne	2	2	6															
11	Na	2	2	6	1														
12	Mg	2	2	6	2														
13	Al	2	2	6	2	1													
14	Si	2	2	6	2	2													
15	P	2	2	6	2	3													
16	S	2	2	6	2	4													
17	Cl	2	2	6	2	5													
18	Ar	2	2	6	2	6													
19	K	2	2	6	2	6	1												
20	Ca	2	2	6	2	6	2												
21	Sc	2	2	6	2	6	3												
22	Ti	2	2	6	2	6	4												
23	V	2	2	6	2	6	5												
24	Cr	2	2	6	2	6	6												
25	Mn	2	2	6	2	6	7												
26	Fe	2	2	6	2	6	8												
27	Co	2	2	6	2	6	9												
28	Ni	2	2	6	2	6	10												
29	Cu	2	2	6	2	6	10	1											
30	Zn	2	2	6	2	6	10	2											
31	Ga	2	2	6	2	6	10	2	1										
32	Ge	2	2	6	2	6	10	2	2										
33	As	2	2	6	2	6	10	2	3										
34	Se	2	2	6	2	6	10	2	4										
35	Br	2	2	6	2	6	10	2	5										
36	Kr	2	2	6	2	6	10	2	6										
37	Rb	2	2	6	2	6	10	2	6	1									
38	Sr	2	2	6	2	6	10	2	6	2									
39	Y	2	2	6	2	6	10	2	6	3									
40	Zr	2	2	6	2	6	10	2	6	4									
41	Nb	2	2	6	2	6	10	2	6	5									
42	Mo	2	2	6	2	6	10	2	6	6									
43	Tc	2	2	6	2	6	10	2	6	7									
44	Ru	2	2	6	2	6	10	2	6	8									
45	Rh	2	2	6	2	6	10	2	6	9									
46	Pd	2	2	6	2	6	10	2	6	10									

Table 1. (Continued)

Z	Sym	K			L			M			N			O				
		1s	2s	2p	3s	3p	3d	4s	4p	4d	4f	5s	5p	5d	5f	5g		
47	Ag	2	2	6	2	6	10	2	6	10	1							
48	Cd	2	2	6	2	6	10	2	6	10	2							
49	In	2	2	6	2	6	10	2	6	10	3							
50	Sn	2	2	6	2	6	10	2	6	10	4							
51	Sb	2	2	6	2	6	10	2	6	10	5							
52	Te	2	2	6	2	6	10	2	6	10	6							
53	I	2	2	6	2	6	10	2	6	10	7							
54	Xe	2	2	6	2	6	10	2	6	10	8							
55	Cs	2	2	6	2	6	10	2	6	10	9							
56	Ba	2	2	6	2	6	10	2	6	10	10							
57	La	2	2	6	2	6	10	2	6	10	11							
58	Ce	2	2	6	2	6	10	2	6	10	12							
59	Pr	2	2	6	2	6	10	2	6	10	13							
60	Nd	2	2	6	2	6	10	2	6	10	14							
61	Pm	2	2	6	2	6	10	2	6	10	14	1						
62	Sm	2	2	6	2	6	10	2	6	10	14	2						
63	Eu	2	2	6	2	6	10	2	6	10	14	2	1					
64	Gd	2	2	6	2	6	10	2	6	10	14	2	2					
65	Tb	2	2	6	2	6	10	2	6	10	14	2	3					
66	Dy	2	2	6	2	6	10	2	6	10	14	2	4					
67	Ho	2	2	6	2	6	10	2	6	10	14	2	5					
68	Er	2	2	6	2	6	10	2	6	10	14	2	6					
69	Tm	2	2	6	2	6	10	2	6	10	14	2	6	1				
70	Yb	2	2	6	2	6	10	2	6	10	14	2	6	2				
71	Lu	2	2	6	2	6	10	2	6	10	14	2	6	3				
72	Hf	2	2	6	2	6	10	2	6	10	14	2	6	4				
73	Ta	2	2	6	2	6	10	2	6	10	14	2	6	5				
74	W	2	2	6	2	6	10	2	6	10	14	2	6	6				
75	Re	2	2	6	2	6	10	2	6	10	14	2	6	7				
76	Os	2	2	6	2	6	10	2	6	10	14	2	6	8				
77	Ir	2	2	6	2	6	10	2	6	10	14	2	6	9				
78	Pt	2	2	6	2	6	10	2	6	10	14	2	6	10				
79	Au	2	2	6	2	6	10	2	6	10	14	2	6	10	1			
80	Hg	2	2	6	2	6	10	2	6	10	14	2	6	10	2			
81	Tl	2	2	6	2	6	10	2	6	10	14	2	6	10	3			
82	Pb	2	2	6	2	6	10	2	6	10	14	2	6	10	4			
83	Bi	2	2	6	2	6	10	2	6	10	14	2	6	10	5			
84	Po	2	2	6	2	6	10	2	6	10	14	2	6	10	6			
85	At	2	2	6	2	6	10	2	6	10	14	2	6	10	7			
86	Rn	2	2	6	2	6	10	2	6	10	14	2	6	10	8			
87	Fr	2	2	6	2	6	10	2	6	10	14	2	6	10	9			
88	Ra	2	2	6	2	6	10	2	6	10	14	2	6	10	10			
89	Ac	2	2	6	2	6	10	2	6	10	14	2	6	10	11			
90	Th	2	2	6	2	6	10	2	6	10	14	2	6	10	12			
91	Pa	2	2	6	2	6	10	2	6	10	14	2	6	10	13			
92	U	2	2	6	2	6	10	2	6	10	14	2	6	10	14			

Table 1.(Continued)

Z	Sym	K			L			M			N				O				
		1s	2s	2p	3s	3p	3d	4s	4p	4d	4f	5s	5p	5d	5f	5g			
93	Np	2	2	6	2	6	10	2	6	10	14	2	6	10	14	1			
94	Pu	2	2	6	2	6	10	2	6	10	14	2	6	10	14	2			
95	Am	2	2	6	2	6	10	2	6	10	14	2	6	10	14	3			
96	Cm	2	2	6	2	6	10	2	6	10	14	2	6	10	14	4			
97	Bk	2	2	6	2	6	10	2	6	10	14	2	6	10	14	5			
98	Cf	2	2	6	2	6	10	2	6	10	14	2	6	10	14	6			
99	Es	2	2	6	2	6	10	2	6	10	14	2	6	10	14	7			
100	Fm	2	2	6	2	6	10	2	6	10	14	2	6	10	14	8			
101	Md	2	2	6	2	6	10	2	6	10	14	2	6	10	14	9			
102	No	2	2	6	2	6	10	2	6	10	14	2	6	10	14	10			
103	Lr	2	2	6	2	6	10	2	6	10	14	2	6	10	14	11			
104	Rf	2	2	6	2	6	10	2	6	10	14	2	6	10	14	12			
105	Db	2	2	6	2	6	10	2	6	10	14	2	6	10	14	13			
106	Sg	2	2	6	2	6	10	2	6	10	14	2	6	10	14	14			
107	Bh	2	2	6	2	6	10	2	6	10	14	2	6	10	14	15			
108	Hs	2	2	6	2	6	10	2	6	10	14	2	6	10	14	16			
109	Mt	2	2	6	2	6	10	2	6	10	14	2	6	10	14	17			
110	Ds	2	2	6	2	6	10	2	6	10	14	2	6	10	14	18			

Table 3. Mendeleev Electronic Configuration Of The Elements

Num.	Symbol	K		L			M			N				O				P		Q	
		1s	2s	2p	3s	3p	3d	4s	4p	4d	4f	5s	5p	5d	5f	6s	6p	6d	6f	7s	7p
1. Period																					
1	<u>H</u>	1																			
2	<u>He</u>	2																			
2. Period																					
3	<u>Li</u>	2	1																		
4	<u>Be</u>	2	2																		
5	<u>B</u>	2	2	1																	
6	<u>C</u>	2	2	2																	
7	<u>N</u>	2	2	3																	
8	<u>O</u>	2	2	4																	
9	<u>F</u>	2	2	5																	
10	<u>Ne</u>	2	2	6																	
3. Period																					
11	<u>Na</u>	2	2	6	1																
12	<u>Mg</u>	2	2	6	2																
13	<u>Al</u>	2	2	6	2	1															
14	<u>Si</u>	2	2	6	2	2															
15	<u>P</u>	2	2	6	2	3															
16	<u>S</u>	2	2	6	2	4															
17	<u>Cl</u>	2	2	6	2	5															
18	<u>Ar</u>	2	2	6	2	6															
4. Period																					
19	<u>K</u>	2	2	6	2	6	..	1													
20	<u>Ca</u>	2	2	6	2	6	..	2													
21	<u>Sc</u>	2	2	6	2	6	1	2													

22	Ti	2	2	6	2	6	2	2														
23	V	2	2	6	2	6	3	2														
24	Cr	2	2	6	2	6	5	1														
25	Mn	2	2	6	2	6	5	2														
26	Fe	2	2	6	2	6	6	2														
27	Co	2	2	6	2	6	7	2														
28	Ni	2	2	6	2	6	8	2														
29	Cu	2	2	6	2	6	10	1														
30	Zn	2	2	6	2	6	10	2														
31	Ga	2	2	6	2	6	10	2	1													
32	Ge	2	2	6	2	6	10	2	2													
33	As	2	2	6	2	6	10	2	3													
34	Se	2	2	6	2	6	10	2	4													
35	Br	2	2	6	2	6	10	2	5													
36	Kr	2	2	6	2	6	10	2	6													
5. Period		1s	2s	2p	3s	3p	3d	4s	4p	4d	4f	5s	5p	5d	5f	6s	6p	6d	6f	7s	7p	
37	Rb	2	2	6	2	6	10	2	6	..	..	1									
38	Sr	2	2	6	2	6	10	2	6	..	..	2									
39	Y	2	2	6	2	6	10	2	6	1	..	2										
40	Zr	2	2	6	2	6	10	2	6	2	..	2										
41	Nb	2	2	6	2	6	10	2	6	4	..	1										
42	Mo	2	2	6	2	6	10	2	6	5	..	1										
43	Tc	2	2	6	2	6	10	2	6	6	..	1										
44	Ru	2	2	6	2	6	10	2	6	7	..	1										
45	Rh	2	2	6	2	6	10	2	6	8	..	1										
46	Pd	2	2	6	2	6	10	2	6	10	..	..								
47	Ag	2	2	6	2	6	10	2	6	10	..	1										
48	Cd	2	2	6	2	6	10	2	6	10	..	2										
49	In	2	2	6	2	6	10	2	6	10	..	2	1									
50	Sn	2	2	6	2	6	10	2	6	10	..	2	2									
51	Sb	2	2	6	2	6	10	2	6	10	..	2	3									
52	Te	2	2	6	2	6	10	2	6	10	..	2	4									
53	I	2	2	6	2	6	10	2	6	10	..	2	5									
54	Xe	2	2	6	2	6	10	2	6	10	..	2	6									
6. Period		1s	2s	2p	3s	3p	3d	4s	4p	4d	4f	5s	5p	5d	5f	6s	6p	6d	6f	7s	7p	
55	Cs	2	2	6	2	6	10	2	6	10	..	2	6	1						
56	Ba	2	2	6	2	6	10	2	6	10	..	2	6	2						
57	La	2	2	6	2	6	10	2	6	10	..	2	6	1	..	2						
58	Ce	2	2	6	2	6	10	2	6	10	2	2	6	2						
59	Pr	2	2	6	2	6	10	2	6	10	3	2	6	2						
60	Nd	2	2	6	2	6	10	2	6	10	4	2	6	2						
61	Pm	2	2	6	2	6	10	2	6	10	5	2	6	2						
62	Sm	2	2	6	2	6	10	2	6	10	6	2	6	2						
63	Eu	2	2	6	2	6	10	2	6	10	7	2	6	2						

64	Gd	2	2	6	2	6	10	2	6	10	7	2	6	1	..	2						
65	Tb	2	2	6	2	6	10	2	6	10	9	2	6	..	..	2						
66	Dy	2	2	6	2	6	10	2	6	10	10	2	6	..	..	2						
67	Ho	2	2	6	2	6	10	2	6	10	11	2	6	..	..	2						
68	Er	2	2	6	2	6	10	2	6	10	12	2	6	..	..	2						
69	Tm	2	2	6	2	6	10	2	6	10	13	2	6	..	..	2						
70	Yb	2	2	6	2	6	10	2	6	10	14	2	6	..	..	2						
71	Lu	2	2	6	2	6	10	2	6	10	14	2	6	1	..	2						
72	Hf	2	2	6	2	6	10	2	6	10	14	2	6	2	..	2						
73	Ta	2	2	6	2	6	10	2	6	10	14	2	6	3	..	2						
74	W	2	2	6	2	6	10	2	6	10	14	2	6	4	..	2						
75	Re	2	2	6	2	6	10	2	6	10	14	2	6	5	..	2						
76	Os	2	2	6	2	6	10	2	6	10	14	2	6	6	..	2						
77	Ir	2	2	6	2	6	10	2	6	10	14	2	6	7	..	2						
78	Pt	2	2	6	2	6	10	2	6	10	14	2	6	9	..	1						
79	Au	2	2	6	2	6	10	2	6	10	14	2	6	10	..	1						
80	Hg	2	2	6	2	6	10	2	6	10	14	2	6	10	..	2						
81	Tl	2	2	6	2	6	10	2	6	10	14	2	6	10	..	2	1					
82	Pb	2	2	6	2	6	10	2	6	10	14	2	6	10	..	2	2					
83	Bi	2	2	6	2	6	10	2	6	10	14	2	6	10	..	2	3					
84	Po	2	2	6	2	6	10	2	6	10	14	2	6	10	..	2	4					
85	At	2	2	6	2	6	10	2	6	10	14	2	6	10	..	2	5					
86	Rn	2	2	6	2	6	10	2	6	10	14	2	6	10	..	2	6					
7. Period		1s	2s	2p	3s	3p	3d	4s	4p	4d	4f	5s	5p	5d	5f	6s	6p	6d	6f	7s	7p	
87	Fr	2	2	6	2	6	10	2	6	10	14	2	6	10	..	2	6	..	..	1		
88	Ra	2	2	6	2	6	10	2	6	10	14	2	6	10	..	2	6	..	..	2		
89	Ac	2	2	6	2	6	10	2	6	10	14	2	6	10	..	2	6	1	..	2		
90	Th	2	2	6	2	6	10	2	6	10	14	2	6	10	..	2	6	2	..	2		
91	Pa	2	2	6	2	6	10	2	6	10	14	2	6	10	2	2	6	1	..	2		
92	U	2	2	6	2	6	10	2	6	10	14	2	6	10	3	2	6	1	..	2		
93	Np	2	2	6	2	6	10	2	6	10	14	2	6	10	4	2	6	1	..	2		
94	Pu	2	2	6	2	6	10	2	6	10	14	2	6	10	6	2	6	..	..	2		
95	Am	2	2	6	2	6	10	2	6	10	14	2	6	10	7	2	6	..	..	2		
96	Cm	2	2	6	2	6	10	2	6	10	14	2	6	10	7	2	6	1	..	2		
97	Bk	2	2	6	2	6	10	2	6	10	14	2	6	10	9	2	6	..	..	2		
98	Cf	2	2	6	2	6	10	2	6	10	14	2	6	10	10	2	6	..	..	2		
99	Es	2	2	6	2	6	10	2	6	10	14	2	6	10	11	2	6	..	..	2		
100	Fm	2	2	6	2	6	10	2	6	10	14	2	6	10	12	2	6	..	..	2		
101	Md	2	2	6	2	6	10	2	6	10	14	2	6	10	13	2	6	..	..	2		
102	No	2	2	6	2	6	10	2	6	10	14	2	6	10	14	2	6	..	..	2		
103	Lr	2	2	6	2	6	10	2	6	10	14	2	6	10	14	2	6	1	..	2		
104	Rf	2	2	6	2	6	10	2	6	10	14	2	6	10	14	2	6	2	..	2		
105	Db	2	2	6	2	6	10	2	6	10	14	2	6	10	14	2	6	3	..	2		
106	Sg	2	2	6	2	6	10	2	6	10	14	2	6	10	14	2	6	4	..	2		

107	<u>Bh</u>	2	2	6	2	6	10	2	6	10	14	2	6	10	14	2	6	5	..	2
108	<u>Hs</u>	2	2	6	2	6	10	2	6	10	14	2	6	10	14	2	6	6	..	2
109	<u>Mt</u>	2	2	6	2	6	10	2	6	10	14	2	6	10	14	2	6	7	..	2
110	<u>Uun</u>	2	2	6	2	6	10	2	6	10	14	2	6	10	14	2	6	9	..	1

Table 2. The Jiang periodic table of elements.

Atomic Orbitals	Outermost Subshell electrons	1. Period	2. Period	3. Period	4. Period	5. Period
s	1	1 H	3 Li	11 Na	29 Cu	61 Pm
	2	2 He	4 Be	12 Mg	30 Zn	62 Sm
p	1		5 B	13 Al	31 Ga	63 Eu
	2		6 C	14 Si	32 Ge	64 Gd
	3		7 N	15 P	33 As	65 Tb
	4		8 O	16 S	34 Se	66 Dy
	5		9 F	17 Cl	35 Br	67 Ho
	6		10 Ne	18 Ar	36 Kr	68 Er
d	1	Stable elements		19 K	37 Rb	69 Tm
	2	Stable elements		20 Ca	38 Sr	70 Yb
	3	Stable elements		21 Sc	39 Y	71 Lu
	4	Stable elements		22 Ti	40 Zr	72 Hf
	5	Stable elements		23 V	41 Nb	73 Ta
	6	Stable elements		24 Cr	42 Mo	74 W
	7	Stable elements		25 Mn	43 Tc	75 Re
	8	Stable elements		26 Fe	44 Ru	76 Os
	9	Stable elements		27 Co	45 Rh	77 Ir
	10	Stable elements		28 Ni	46 Pd	78 Pt
f	1	Stable elements			47 Ag	79 Au
	2	Stable elements			48 Cd	80 Hg
	3	Stable elements			49 In	81 Tl
	4	Stable elements			50 Sn	82 Pb
	5	Stable elements			51 Sb	83 Bi
	6	Stable elements			52 Te	84 Po
	7	Stable elements			53 I	85 At
	8	Stable elements			54 Xe	86 Rn
	9	Stable elements			55 Cs	87 Fr
	10	Stable elements			56 Ba	88 Ra
	11	Stable elements			57 La	89 Ac
	12	Stable elements			58 Ce	90 Th
	13	Stable elements			59 Pr	91 Pa
	14	Stable elements			60 Nd	92 U
g	1	Unstable elements				93 Np
	2	Unstable elements				94 Pu
	3	Unstable elements				95 Am
	4	Unstable elements				96 Cm
	5	Unstable elements				97 Bk
	6	Unstable elements				98 Cf
	7	Unstable elements				99 Es
	8	Unstable elements				100 Fm
	9	Unstable elements				101 Md
	10	Unstable elements				102 No
	11	Unstable elements				103 Lr
	12	Unstable elements				104 Rf
	13	Unstable elements				105 Db
	14	Unstable elements				106 Sg
	15	Unstable elements				107 Bh
	16	Unstable elements				108 Hs
	17	Unstable elements				109 Mt
	18	Unstable elements				110 Ds

References

1. Jiang, Chun-xuan. A new theory for many-body problem stabilities. (Chinese) Qian Kexue 1, 38-48 (1981).
2. Jiang, Chun-xuan. On the symmetries and the stabilities of $4n+2$ electron configurations of the elements. Phys. Lett. 73A, 385-386(1979).
3. Jiang, Chun-xuan. The application of stable groups to biological structures. Acta Math. Sci. 5, 243-260(1985).
4. Jiang, Chun-xuan. The prime principle in biology (Chinese), J. Biomath, 1, 123-125(1986).
5. Jiang, Chun-xuan. A mathematical model for particle classification. Hadronic J. Supp. 2, 514-522(1986).
6. Jiang, Chun-xuan. On the limit for the periodic table of the elements. Apeiron Vol. 5 Nr. 1-2, 21-24(1998).
7. Jiang, Chun-xuan. Foundations of Santilli's isonumber theory Part 1. Algebras, Groups and Geometries. 15, 351-393 (1998).
8. Jiang, Chun-xuan. Foundations of Santilli Isonumber Theory with applications to new cryptograms, Fermat's theorem and Goldbach's Conjecture.pp.85-88. Inter, Acad, Press. 2002. MR2004c:11001. <http://www.i-b-r.org/docs/jiang.pdf>.
9. Jiang, Chun-xuan. The prime principle and the symmetric principle in clusters and nanostructures. <http://vixra.org/pdf/1004.0043v1.pdf>.
10. Eric R.Scerri, The periodic table:its story and its significance,Oxford university press, 2007.

5/7/2017