ARTICLE 11

LAN PLAINS FOR TETE-VIC EQUATION

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ABSTRACT

This is 11th article of 24 dedicated to atomic model based on Victoria equation (Articles index is at end). Torrebotana Central Energetic Line (E_J) [1] supplies energetic values for electron excited states very close to reference [2]. Excited states are grouped into curves that are destiny function, and consequently orbital quantum number plays major role, and attraction towards Torrebotana Central Energetic Line is greater when orbital quantum number increases (s<p<d) [1]. LAN factor is included in Tete-Vic Equation to give circulation to different routes divided by destination reason. Analogy is as follows: 1s Original electronic system (1s OES) creates main ideal line (Torrebotana Central Energetic Line) considering Born electronic system (BES) and simultaneously draws Serelles Secondary Lines in which energy of excited states runs according to destiny (within destiny has special importance orbital quantum number as indicated before, as well as J or Term).

LAN plain is jump to Serelles Secondary Line with jumps in which LAN is practically constant throughout Serelles Secondary Line since LAN has small variation with energy. $1s^2 2s$ as non-excited or initial state and $1s^2 ns$ as excited or final state are selected to show such LAN behaviour.

KEYWORDS

Tete-Vic equation. Torrebotana Central Line, Serelles Secondary Line, LAN plain, Relation of Riquelme de Gozy, z_{CT} (Zon Equation).

INTRODUCTION

Torrebotana Central Line created from 1s Original electronic system (1s OES) based on Born electronic system (BES) is charge-energy ideal line in n function. Jump for various atoms from $1s^2$ and 2s to different excited state (lower and upper levels with electronic configuration, Term and J defined) are studied by way of example. Excited states are found near Torrebotana Central Line and, depending on destiny (Term and J), excited states are located inside curves without discontinuities that tend to Torrebotana Central Line and are still more attracted when n and l grows. [1] Abbreviations Table is at end article.

These curves, where excited states are located according to their defined jump, are called Serelles Secondary Line. Defined jump is lower and upper levels with electronic configuration, Term and J defined. Serelles Secondary Line includes LAN factor.

P45 Excited state charge (z_{CT}) [1] in Torrebotana Central Line is ideal charge to which excited state are attracted to greater or lesser extent depending on destiny quantum numbers and is given by “Zon Equation”(1):

$$(1) z_{ct} = \frac{z_s^2}{n^2 z_o}$$

z_s Start charge according to P46
z_o 1s Origin charge according to P46
n Principal quantum number of excited state

P48 LAN factor for Serelles Secondary Line.

Serelles Secondary Line is defined by LAN inclusion. (1) is transformed into (2) by LAN inclusion where z_{SS} (Serelles secondary charge) is excited state charge in Serelles Secondary Line.

$$(2) z_{SS} = \frac{z_s^2}{(n - LAN)^2 z_o}$$

Therefore, jump energy (E_J) predicted by Tete-Vic Equation [1] is modified by including z_{SS} instead of z_{CT}. This fact makes E_J and E_d which refer to Torrebotana Central Line, becomes E_{JS} and E_{dS} where S is Serelles. Serelles Secondary Line with z_{SS} incorporation is given by (3):

$$(3) E_{JS} = E_{dS} - IE = \frac{z_s^2 E_o}{z_o^2 (n - LAN)^2} - IE$$

LAN expression (4) and (5) can be obtained from (2) or (3) respectively:

$$(4) \text{-}LAN = \left(\frac{z_s^2}{z_{SS} z_o} \right)^{1/2} - n$$

$$(5) \text{-}LAN = \left(\frac{z_s^2 E_o}{z_o^2 E_{dS}} \right)^{1/2} - n = \left(\frac{z_s^2 E_o}{z_o^2 (E_{JS} + IE)} \right)^{1/2} - n$$

E_{JS} calculation has not been defined and jump reference value [2] is going to be employed instead. As E_{JS} is not yet known, E_{dS} and z_{SS} are not either. Suffix R, indicating Reference use [2], is inserted in LAN and E_d to be differentiated. Energy needed to reach excited states with reference energy is abbreviated as E_k (indicated in [1]) and is applied as E_{JS} (6):

$$(6) \text{-}LAN \approx -LAN_R = \left(\frac{z_s^2 E_o}{z_o^2 E_{dR}} \right)^{1/2} - n = \left(\frac{z_s^2 E_o}{z_o^2 (E_K + IE)} \right)^{1/2} - n$$

(6) can be simplified in (7):

$$(7)\ \text{-}\ \mathrm{LAN} \approx -\mathrm{LAN}_R = \frac{(-E_o)^{1/2} z_s}{(-E_{dR})^{1/2} z_o} - n$$

LAN behaviour with Energy

$1s^2$ Be is selected as example and values applicable in (6) or (7) are included in **Table 1**.

Table 1 - Be $1s^2$ values included in (6) or (7)			
E_o (1s IE) (eV) [2]	z_s	z_o	IE $1s^2$ (eV) [2]
-217,7185766	3	4	-153,896198

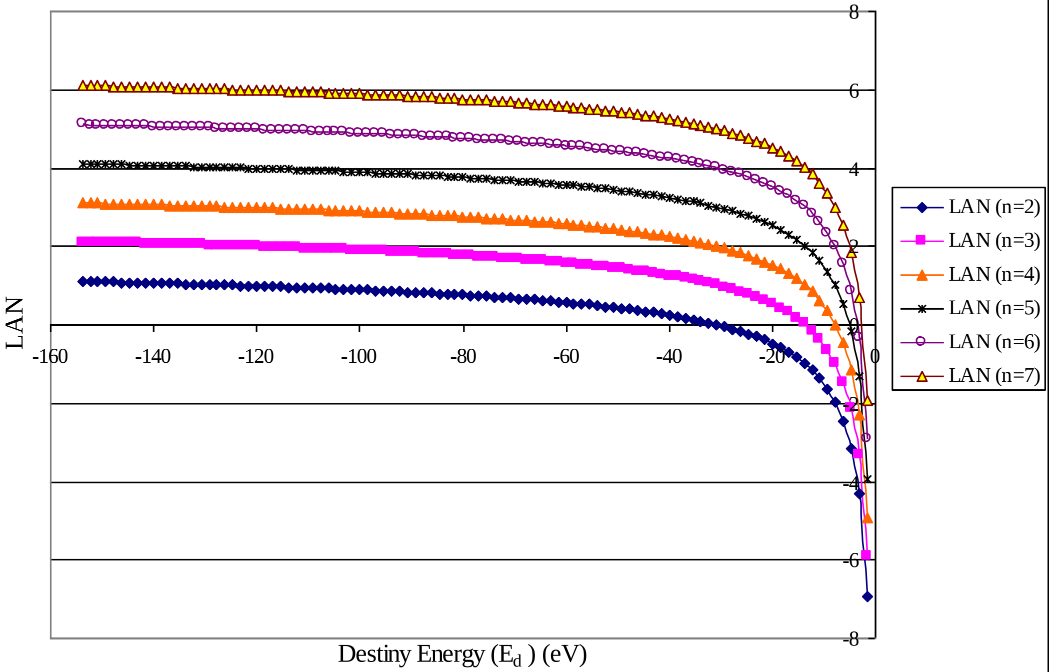
Excited energy or destiny energy is varied from 0.01 IE to IE with 0.01 IE increments for n=[2,7] in **Figure 1**:

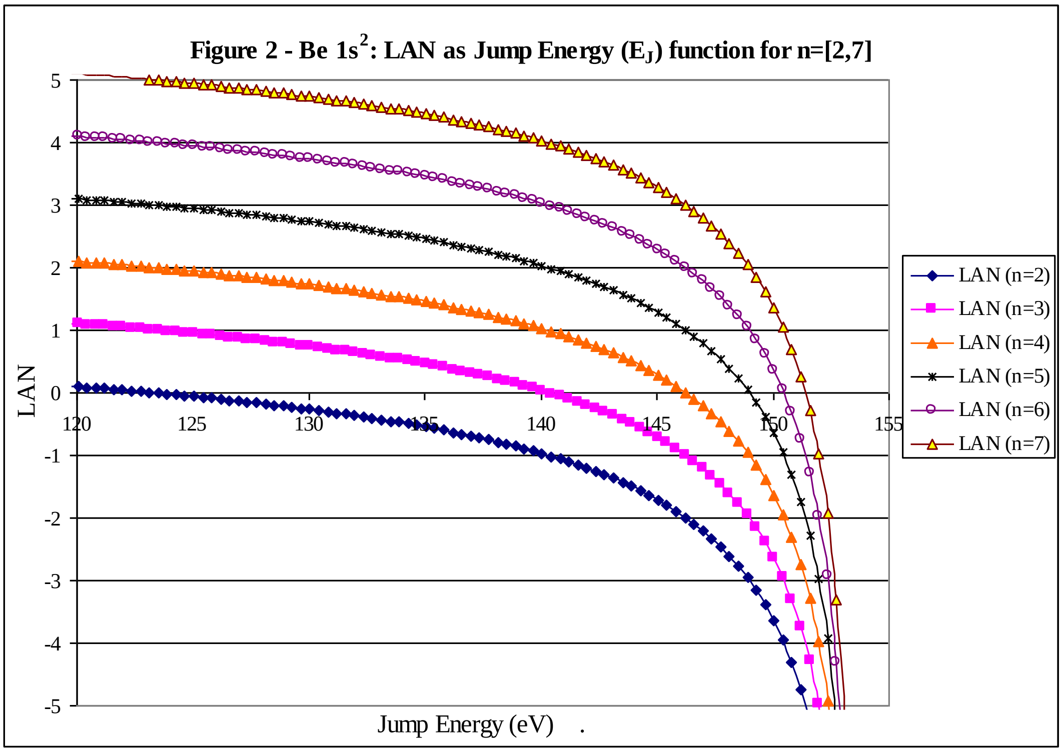
a) Curves cut at E_d value provided by Torrebotana Central Line when LAN=0.

b) Curves are shifted downward by n increments. Same fact is observed in **Figure 2** where X axis changes from E_d to E_J.

c) If LAN of Serelles Secondary Line is the same for all n, E_d and E_J curves approach or move away as LAN increases or decreases respectively.

Figure 1 - Be $1s^2$: LAN as Destiny Energy (E_d) function for n=[2,7]





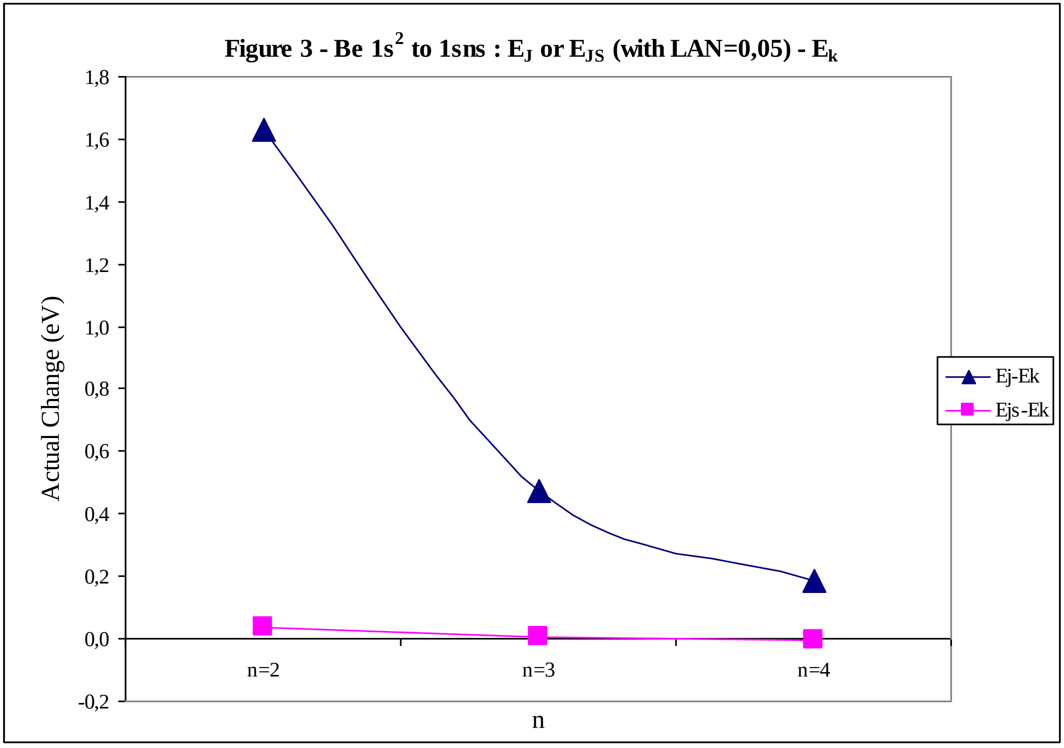


Table 2 is centred in Be electron jump from $1s^2$ to 1sns (both with Term ^1S; J=0) and remembers E_k and E_J [1] together with the E_{JS} resulting calculations with fixed LAN=0.05 Lanitos for all n. Lanito is LAN unit. Difference between E_J and E_k is difference between Torrebotana Central Line and reference data [2] and is studied for this Be jump in [1]. Actual change (and its corresponding Relative Change) are low but existents and decrease when n and l quantum numbers increase [1]. These low

differentials are especially reduced when E_{JS} with LAN=0.05 is applied. For example and when n=2, Actual Change is ≈1.629 eV for E_J - E_k and drops sharply to only ≈0.039 for E_{JS} LAN - E_k. Actual change drops are also produced in following n as represented in **Figure 3**.

Table 2 - Be $1s^2$ to 1s ns - Jump energies (E_k E_J and E_J with LAN=0,05) and Actual changes			
Energy (eV)	n=2	n=3	n=4
E_k	121,6506	139,8176	146,054
E_J	123,279523	140,288787	146,242029
E_{JS} LAN=0,05	121,689308	139,82361	146,047026
E_J - E_k	1,628923	0,471187	0,188029
E_{JS} LAN - E_k	0,038708	0,006010	-0,006974

P49 LAN plain: Jump in Serelles Secondary Line

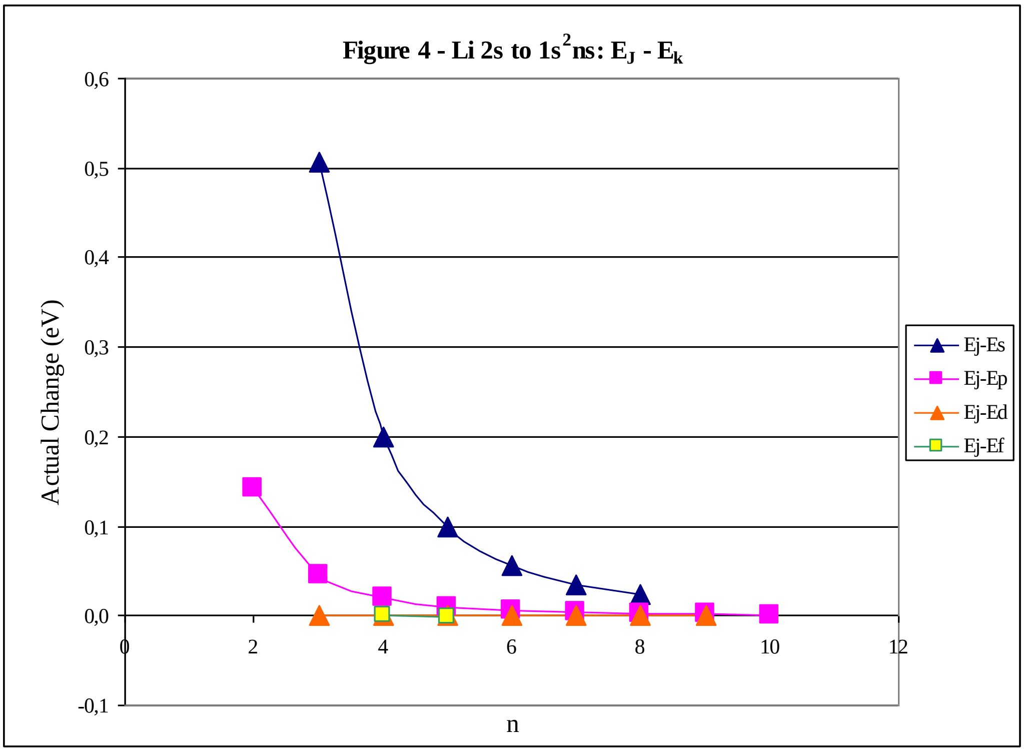
Electron jumps to excited states in which, being all constant except n, fulfil that LAN ≈ constant with linear tendency that is jump energy function. 2s jump is taken to exemplify P49. Minimum energy state (IE) and final states with E_k (jump reference value [2]) are in **Table 3** and **Table 4**. Charge (z_{CT}) and Energy (E_J) are contained for Torrebotana Central Line in Table 4. Serelles Secondary Lines indicated in Table 3 have E_k (jump reference value [2]) as Es, Ep, Ed and Ef according excited state or destiny state is ns, np, nd or nf respectively. Actual Change (8) is represented in **Figure 4**. E_k (Jump reference energy) [2], as in [1] examples, are even more attracted to Torrebotana Central Line when n and l increase.

(8) Actual Change = AC = Δ = E_J - E_k

Tabla 3 – Final or destiny states selected for jumps from 2s				
Final state	$1s^2$ns	$1s^2$np	$1s^2$nd	$1s^2$nf
Term J	^2S 1/2	$^2P°$ 3/2	^2D 5/2	$^2F°$ 7/2

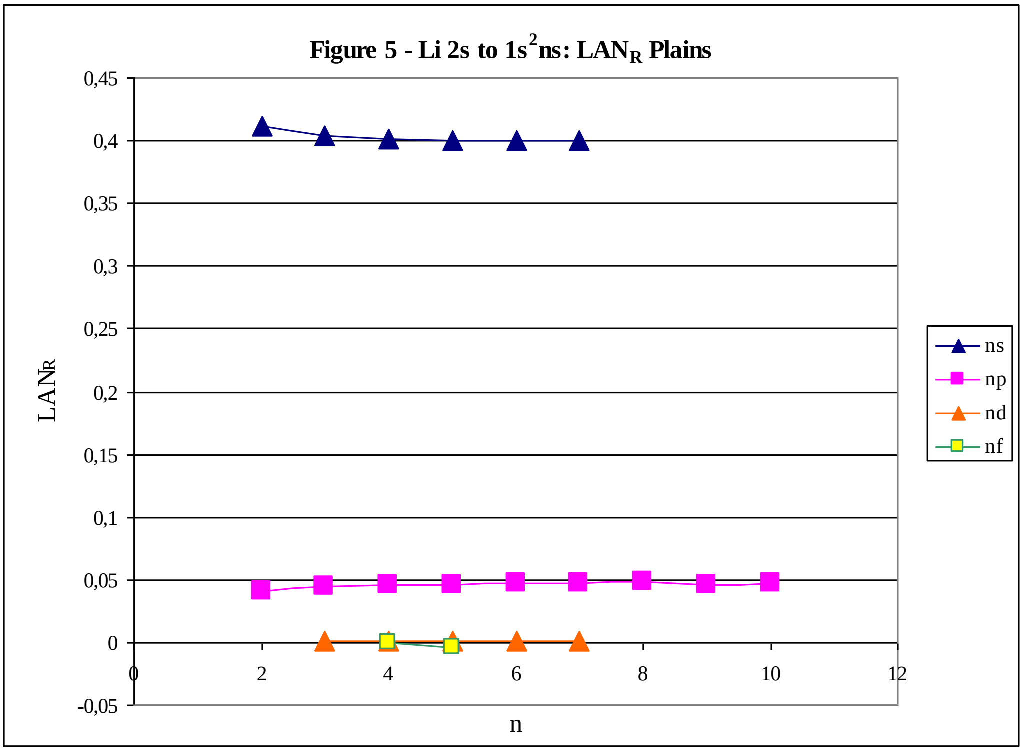
Table 4 - E_J z_{CT} and E_k for Li $1s^2 2s$ till n=10 and values included in (6) or (7)				
Included in (6) or (7)	E_o (eV) [2]	z_s	z_o	IE 2s (eV) [2]
	-122,4543538	1	3	-5,391714761

E_J z_{CT} and E_k for Li $1s^2 2s$ till n=10						
n	z_{CT}	Ej	Es	Ep	Ed	Ef
2	0,083333333	1,990204933		1,84786		
3	0,037037037	3,879932615	3,373129	3,834258	3,878613	
4	0,020833333	4,541337304	4,340942	4,521648	4,540723	4,54157
5	0,013333333	4,847473189	4,748533	4,837313	4,847155	4,84834
6	0,009259259	5,013769225	4,957835	5,007826	5,013589	
7	0,006802721	5,114040489	5,07937	5,1103	5,11391	
8	0,005208333	5,179120397	5,15614	5,176542	5,17898	
9	0,004115226	5,223738967		5,222	5,22362	
10	0,003333333	5,255654368		5,254346		



LAN_R (7) can be calculated with Table 4 and these LAN_R are compiled in **Table 5** and represented in **Figure 5**. LAN_R plains can be checked both in Table 5 and in Figure 5. Value marked with (*) is not really jump because is precisely electronic configuration of lowest energy and, consequently, minimum energy state or initial state. LAN at initial state is developed in following point: P50.

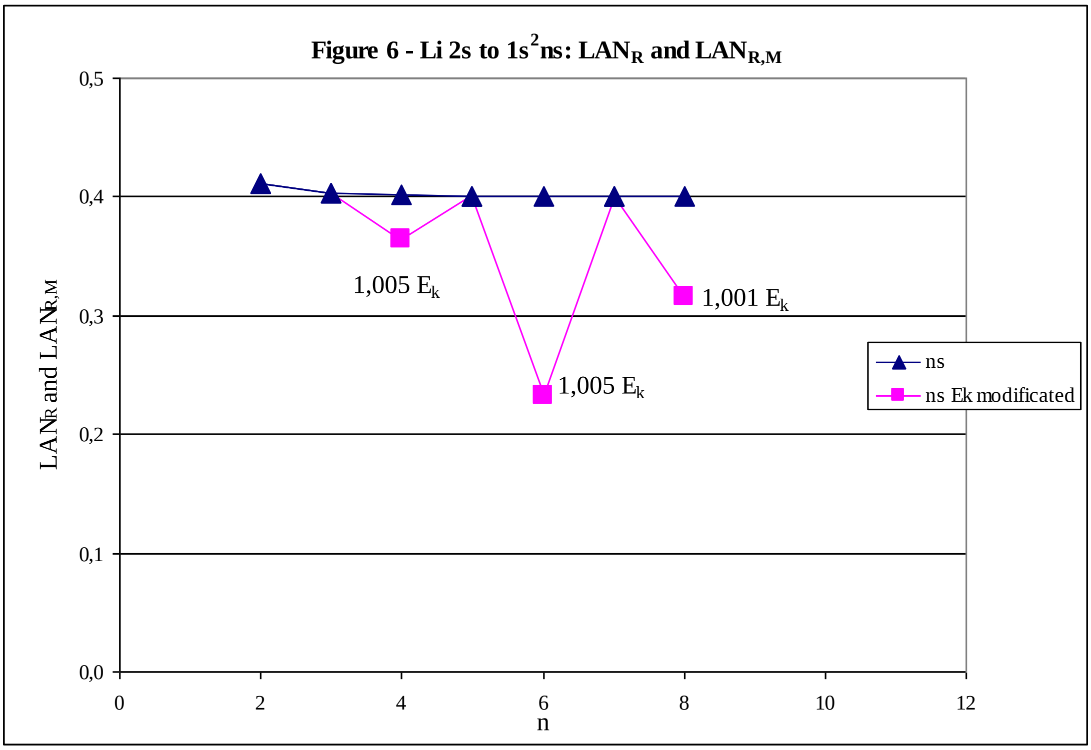
Figure 5 - Li 2s – LAN_R for Serelles Secondary Lines				
n	$1s^2ns$	$1s^2np$	$1s^2nd$	$1s^2nf$
2	0,41144445 (*)	0,04057835		
3	0,40377542	0,04431695	0,00131343	
4	0,40158327	0,04551828	0,001444	-0,00052386
5	0,40062309	0,04602786	0,00146556	-0,0039865
6	0,40008849	0,04662606	0,00144591	
7	0,39992687	0,04667668	0,0016442	
8	0,40021194	0,04807611		
9		0,04622757		
10		0,04773641		



E_k changes with increments of 0.5% for $1s^24s$ and $1s^26s$ and 0.1% for $1s^28s$ are done to visualize variation in LAN_R. For example, E_k ($1s^24s$) passes from 4,340942 to 4,362646 as result to change to be 1,005 E_k. In **Table 6** and **Figure 6**, high LAN_R variations are observed even though percentage increases in E_k are low and LAN_R plain is broken by discontinuities. LAN_R with E_k modification is represented by $LAN_{R,M}$. Relative Change in percentage for LAN_R is given in (9) but the most direct information column is the last one where $\%RC(LAN_R)$ is referenced to $\%RC(E_k)$ because E_k variation for $1s^2 8s$ is lower. For case of $1s^2 8s$, $\%RC(LAN_R)$ is ≈211 times higher than $\%RC(E_k)$. Conclusion is than LAN_R has great sensitivity to E_k variation.

$$(9)\%RC(LAN_R) = \frac{(LAN_{R,M} - LAN_R)}{/LAN_R/} * 100$$

Table 6 - Li from 2s to $1s^2 ns$ - Effect of varying E_k in LAN_R					
n	$\%RC(E_k)$	LAN_R	$LAN_{R,M}$	$\%RC(LAN_{R,M})$	$\frac{\%RC(LAN_{R,M})}{\%RC(E_k)}$
4	+0,5%	0,40158327	0,36383307	9,4003418	18,800683
6	+0,5%	0,40008849	0,23291811	41,783351	83,566702
8	+0,1%	0,40021194	0,31565112	21,129009	211,29009



Higher sensibility when n is higher (Table 6 and Figure 6) is clearly influenced because LAN_R calculation is performed with E_{dR} and not with E_k (6) or (7). n increase implications are:

$$\uparrow n \rightarrow \uparrow E_k \rightarrow \downarrow /E_{dR}/ \rightarrow \uparrow /\%RC(LAN_R)/$$

Some disparity or distance from LAN plain ideality can occur especially when n increases due to data with less accuracy (or even with similar deviation) and / or effects not yet developed and that are increased, as just observed, because of this higher sensitivity when n increases.

P50 Initial LAN value in jump from ns to ns.

Initial LAN value in ns to ns jump is corresponding to initial state and is not first jump. Consequently, initial LAN_R value is result of applying IE [3] instead E_{dR} [2]. First value calculated in this way is found in Table 6 marked with (*) and is not really jump as indicated above. ns to ns jump is OES from OES jump and has this special behaviour. Initial LAN value in jump from ns to ns is called: LAN(P50) and (7) is transformed into (10):

$$(10)\text{ - LAN(P50)} = -\text{LAN}_{ns \rightarrow ns} = \frac{(-E_o)^{1/2} z_s}{(-IE)^{1/2} z_o} - n_{initial}$$

Therefore, LAN and associated "distance" or deviation with respect to Torrebotana Central Line can be easily know for ns to ns jump with only IE [3] and without experiencing any jump [2] because LAN value has plain ideal behaviour, that is to say LAN has little variation with n, and LAN(P50) can be used as first estimate for jumps from ns to ns. (This approach is treated more closely at later article as "Xorrador Approximation").

2s Li example initiated within P49 is continued with Relation of Riquelme de Gozy once P50 has been included.

Relation of Riquelme de Gozy

Relation of Riquelme de Gozy is linear tendency LAN vs electron energy or jump energy. P50 LAN plain: Jump in Serelles Secondary Line is introduced with: "Electron jumps to excited states in which, being all constant except n, fulfil that LAN ≈ constant with linear tendency that is jump energy function". This linear tendency can be expressed with absolute value of destiny energy or excited electron energy ($/E_d/$ or $/E_{dR}/$ if is obtained with reference data).

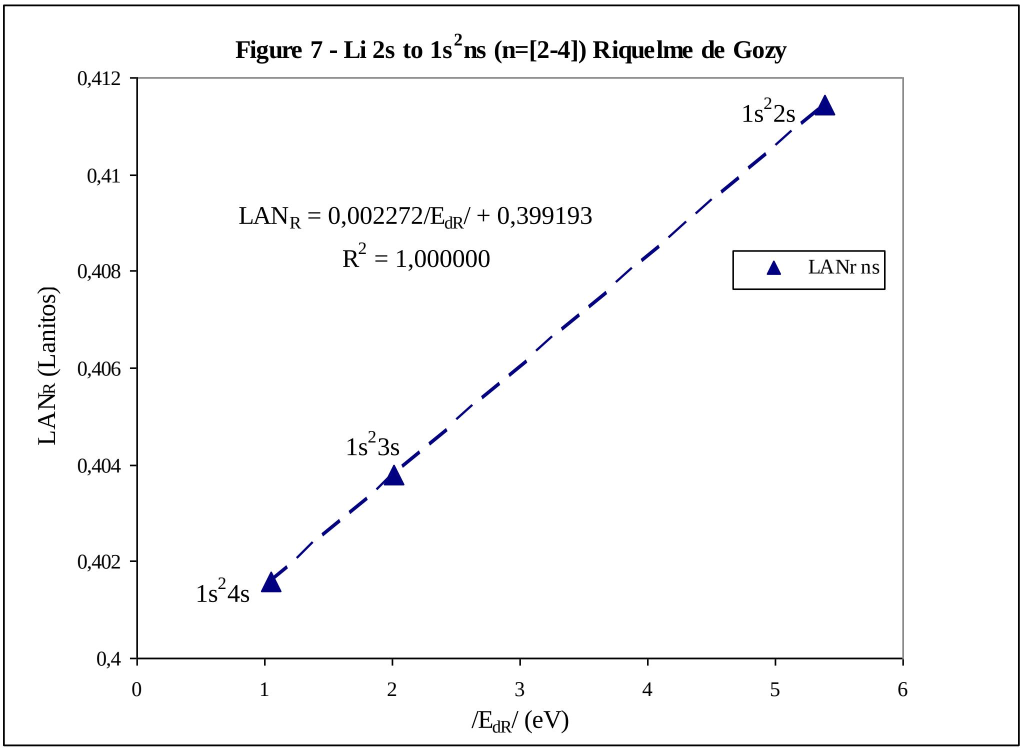
Table 7 collects $/E_{dR}/$ LAN(P50) and LAN_R for jumps up to 8s. LAN_R decreases smoothly with some slight divergence for higher n.

Table 7 - Li 2s: $/Ed_R/$ and LAN_R for **Serelles Secondary Line** with $1s^2ns$ configuration (Term= ^2S and J=1/2)

n	$/Ed_R/$	LAN_R
2	5,39171476	0,41144445 (LAN(P50))
3	2,01858576	0,40377542
4	1,05077276	0,40158327
5	0,64318176	0,40062309

6	0,43387976	0,40008849
7	0,31234476	0,39992687
8	0,23557476	0,40021194

First three points pairs of Table 7 ($/Ed_R/$ and LAN(P50) or LAN_R for n=[2,4]) have been taken in **Figure 7**. Lineal trend has optimal adjustment with R^2=1,000000 and has low slope 0,002272 Lanitos/eV = 2,2 mLanitos/eV. Therefore, P49 LAN plain: Jump in Serelles Secondary Line is fulfilled with energy function linear tendency and LAN plain with low slope → LAN ≈ constant. Linear equation general expression of Riquelme de Gozy is given in (11) and for Li 2s to $1s^2 2s$ (Term=^2S J=1/2) in (12). Serelles Secondary Line is ideal when has optimum linear adjustment as in this case.



$$(11)LAN_R = a + b/E_{dR}/$$

$$(12)LAN_R = 0{,}399192732 + 0{,}002272163/E_{dR}/ \quad R^2 = 1{,}000000$$

$/Ed_R/$ has been used to obtain (12) and E_{dRI} is ideal destiny energy obtained by extrapolation from reference energy equation (12).

Riquelme de Gozy extrapolation to rest of excited states

First step for Riquelme de Gozy extrapolation to rest of excited states and achieving ideal Serelles Secondary Line is to shorten (7) considering (13). K_{LAN} is constant made up of three known constants: $-E_o$ (1s Ionization Energy), z_s (Start or initial charge) and z_o (1s Origin charge) [1]. Three constants are in Table 4 for Lithium example.

$$(13) K_{LAN} = \frac{(-E_o)^{1/2} z_s}{z_o}$$

On the other hand and also in (7), principal quantum number n and destiny energy, that is estimated from ideal behaviour, are not constant. This ideal destiny energy is called E_{dI} where Ideal is marked with suffix I. Finally, E_{dI} is compared with E_{dR} (Reference destiny Energy) [2].

(14) is obtained by equating (11) and (7) with K_{LAN} (13). In addition, E_{dI} is already included with absolute value. Equalization allows to pass from two unknowns (LAN_I and E_{dI}) to a single one (E_{dI}). LAN_I and E_{dI} have suffix I although in both cases is "Ideal" behaviour from reference data that are extrapolated. E_{dRI} (ideal E_{dR} for n obtained from extrapolation of initials E_{dR} satisfying Relation of Riquelme de Gozy) is obtained, although E_{dI} is used in formulas development, because Relation of Riquelme de Gozy has actually been achieved by using references values (IE and E_{dR})

$$(14) a + b/E_{dI}/ = \frac{-K_{LAN}}{(/E_{dI}/)^{1/2}} + n$$

n is taken to equation left and whole equation is squared to remove E_{dI} square root (15):

$$(15) a^2 + b^2/E_{dI}/^2 + n^2 + 2ab/E_{dI}/ - 2an - 2bn/E_{dI}/ = \frac{(-K_{LAN})^2}{/E_{dI}/}$$

(15) is equalized to zero and terms are rearranged based on E_{dI} exponent. Result is third degree equation (16) where there are terms with E_{dI} raised to 3, 2, 1 and 0.

$$(16) b^2/E_{dI}/^3 + 2b(a-n)/E_{dI}/^2 + (a^2 + n^2 - 2an)/E_{dI}/ - K_{LAN}{}^2 = 0$$

Cubic equation is solved by Cardano method, although first is verified if is possible to erase term with E_{dI} raised to 3 and transform it into a second-degree equation. For this, general equation coefficients (16) are inserted in **Table 8** for Li example. E_{dR} is employed because E_{dI} is unknown although, considering R^2=1.000000 (12) obtained with E_{dR}, $E_{dR} \approx E_{dI}$

Table 8 -Li 2s - Values of Ax^3, Bx^2, Cx and D for (17) with x=E_{dR} in Serelles Secondary Line with configuration $1s^2ns$ (Term= ^2S and J=1/2)

n	Ax^3 (eV)	Bx^2 (eV)	Cx (eV)	D (eV)	Suma (eV)	B/A
2	0,00080921	-0,2114766	13,8167215	-13,60603	$1,477*10^{-5}$	-261
3	4,2464E-05	-0,0481584	13,6541147		$-4,058*10^{-5}$	-1134
4	5,9897E-06	-0,0180670	13,6241231		$2,274*10^{-5}$	-3016
5	1,3737E-06	-0,0086491	13,6145033		-0,0001837	-6296
6	4,2168E-07	-0,0047913	13,6103925		-0,0004377	-11362

7	1,5732E-07	-0,0029264	13,6090663		0,00010076	-18602
8	6,7494E-08	-0,0019168	13,609689		0,00173288	-28400

$$(17) Ax^3 + Bx^2 + Cx + D = 0 \quad (x = /E_{dI}/ \text{ or } /E_{dRI}/)$$

Although E_{dR} has been used, not $E_{dI,}$ not even E_{dRI} (ideal E_{dR} for high n obtained from extrapolation of others E_{dR} satisfying Relation of Riquelme de Gozy), Table 8 serves to verify several facts:

a) C and D coefficients are similar for every n. This fact is consequence of Y-intercept being much superior to slope. (14) can be approximated to (19) when (18) is satisfied:

$$(18) \quad a >>> b$$

$$(19) a \approx \frac{-K_{LAN}}{/E_{dI}/^{1/2}} + n \ (E_{dR} \text{ used in Table 8})$$

(19) development leads to (20) that, considering (16) and (17), are same coefficients C and D (21). In addition, as n increases and therefore E_{dI} decreases, C coefficient continues to override A and B coefficients because C has n^2 and $E_{dI,}$ B has n and E_{dI}^2 and A has E_{dI}^3 and not n term.

$$(20) (a^2 + n^2 - 2an)/E_{dI}/ + K_{LAN}^2 \approx 0 \ (E_{dR} \text{ used in Table 8})$$

$$(21) \ C/E_{dI}/ + D \approx 0 \quad \text{If (18) and better when } n\uparrow \ (E_{dR} \text{ used in Table 8})$$

This approach is equivalent to the one indicated as "Xorrador Approximation" in previous paragraph to this point and, as is commented there, is expended in following article.

b) A and B coefficients make up other balance of terms and compensate for difference between C and D. B and A are divided in the last column on the right in Table 8: cubic term is more negligible and error when approaching square relation is smaller when quotient increases. For same reason discussed in previous point, i.e. different exponents of n and E_{dI} in coefficients, B preponderance over A grows as n increases.

c) Summation of four coefficients is made in column titled "Sum". "Sum" dos not give exactly 0 because destiny energy used is E_{dR} and is not E_{dI}. Even not giving 0, can be highlighted:

c.1) n=[2,4]. Summation is practically 0 for first three values (Sum≈10^{-5} eV). This result is predictable since first three values make up (12) and have exceptionally good linear tendency with R^2=1,000000.

c.2) n>4. Following points that can be created from this straight line of Riquelme de Gozy created with E_{dR} are E_{dRI}, and based on low summation values, should not be far from E_{dR} applied in Table 8. Cardano method is applied to know E_{dRI} and compare with E_{dR}.

Cardano method application to know E_{dRI} and compare with E_{dR}.

Comments made on Cardano method application:

a) Riquelme de Gozy equation is obtained with only two points (22): initial state and first excited state. Figure 7 and (12) employ three states (initial state and first two excited states) to demonstrate optimum linearity between them. Consequently, (22) is very similar to (12).

$$(22) LAN = 0{,}399186272 + 0{,}002273521/E_{dR}/$$

b) Cubic equation (16) and square equation obtained by discarding cubic term are solved to n=[4,8], obtaining E_{dRI} , which is compared with E_{dR} and also for n>8 to see how evolves.

c) Cardano method has discriminant which, depending on its sign, equation has different solutions. In this case, discriminant is negative and real solution with physical sense has 90 degrees and cos(90)=0. Other solutions provide $/E_{dRI}/>/IE/$ and therefore are meaningless.

d) **Table 9** has E_{dR} and E_{dRI} with Cubic equation (E_{dRI} (3)) and square equation (E_{dRI} (2)) and their respective LAN:

d.1) Differences between E_{dRI} and E_{dR} are minima: ($\approx 10^{-5}$).
d.2) Differences between $E_{dRI}(2)$ and $E_{dRI}(3)$ in n=2 and n=3 are approximation consequence that has greater weight when n is low and destiny energy is greater (Cubic term=$Ax^3 = b^2 E_{dRI}^3$ (17)).
d.3) $E_{dRI}(2) \approx E_{dRI}(3)$ when n>4 which is from where is interesting to see approximation effect.
d.4) $E_{dRI}(2)$ and E_{dRI} (3) are expressed with same significant digits as E_{dR} for better comparison.

e) Destiny energy vs. LAN is in **Figure 8**. In a first impression, LAN_R is well located in linearity of Relation of Riquelme de Gozy. **Figure 9** is Figure 8 enlargement and is centred on $1s^2ns$ with n=[4,8], that is to say in extrapolated E_{dRI} and LAN_{RI}. LAN_R in 4s, 5s and 7s is very close to linearity of Relation of Riquelme de Gozy, slightly deviated for 6s and something more for 8s. Poor energetic deviation of 0,0003 eV ($/Ed_R/(1s^2 8s)$=0,23557 vs. $/Ed_{RI}/$ (2) ($1s^2 8s$) = $/Ed_{RI}/$ (3) ($1s^2 8s$)= 0,23554) provides visible effect on LAN.

f) Linearity of Relation of Riquelme de Gozy and its sensitivity to small energetic deviations are interesting support to bifurcated Torrebotana Central Line in Serelles Secondary Lines.

g) Relation of Riquelme de Gozy fulfilment including non-excited ns state in ns to ns jump (LANP50) adds more strength to its origin character.

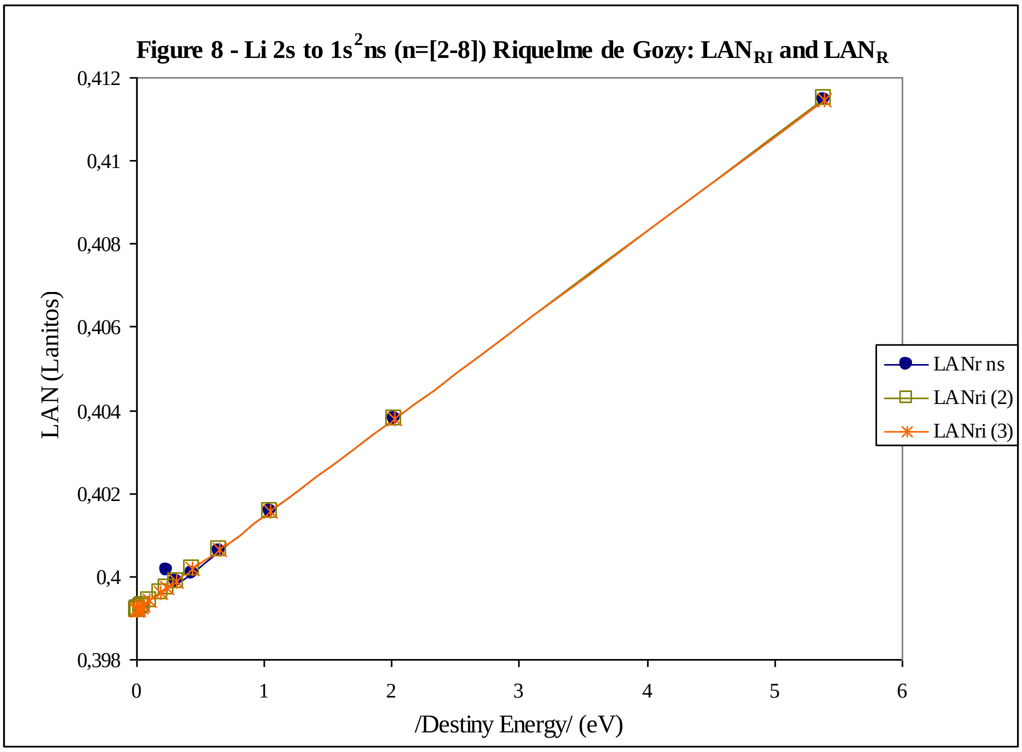


Figure 8 - Li 2s to 1s²ns (n=[2-8]) Riquelme de Gozy: LAN_RI and LAN_R
LAN (Lanitos)
/Destiny Energy/ (eV)
0,412
0,41
0,408
0,406
0,404
0,402
0,4
0,398
0
1
2
3
4
5
6
LANr ns
LANri (2)
LANri (3)

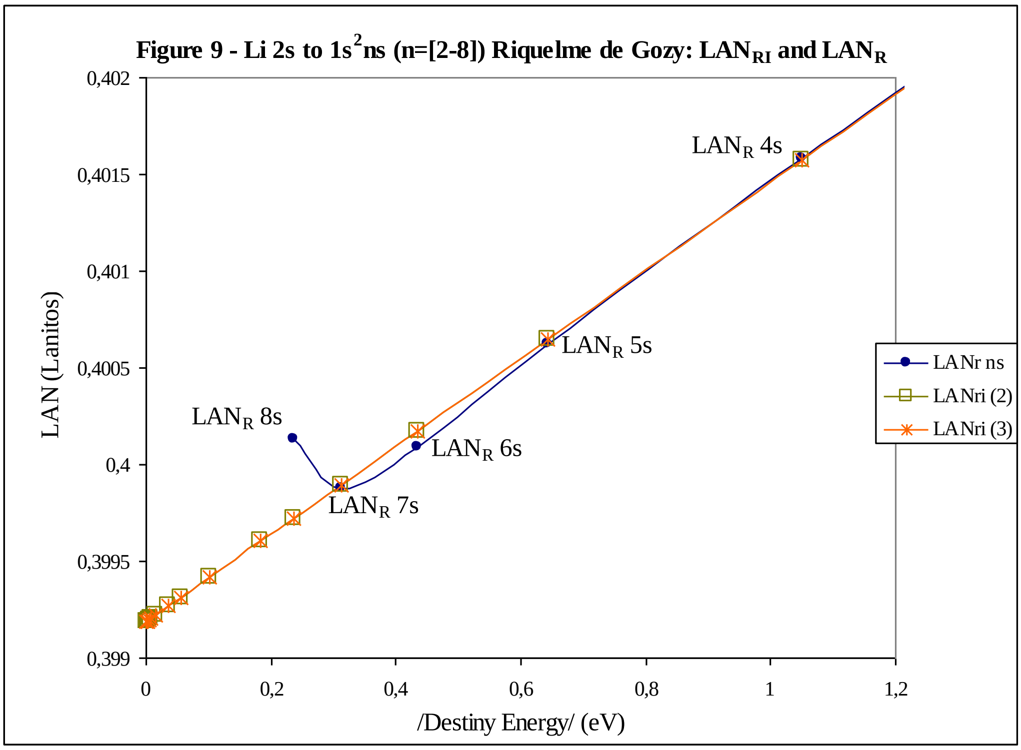


Figure 9 - Li 2s to 1s²ns (n=[2-8]) Riquelme de Gozy: LAN_RI and LAN_R
LAN (Lanitos)
/Destiny Energy/ (eV)
LAN_R 4s
LAN_R 5s
LAN_R 6s
LAN_R 7s
LAN_R 8s
0,402
0,4015
0,401
0,4005
0,4
0,3995
0,399
0
0,2
0,4
0,6
0,8
1
1,2
LANr ns
LANri (2)
LANri (3)

Table 9 - Li 2s - Energía de destino de referencia e ideal por ecuación cúbica (3) o aproximación cuadrada (2). Valores de LAN complementarios a dichas Energías. Línea Secundaria Serelles de configuración $1s^2ns$ (Term= ^2S y J=1/2)						
n	$/Ed_R/$	$/Ed_{RI}/$ (2)	$/Ed_{RI}/$ (3)	LAN_R ns	LAN_{RI} (2)	LAN_{RI} (3)
2	5,39171476	5,3920409	5,39171476	0,411444	0,411492	0,411444
3	2,018586	2,018592	2,018586	0,403776	0,403780	0,403776
4	1,050773	1,050769	1,050768	0,401584	0,401576	0,401575
5	0,643182	0,643189	0,643189	0,400624	0,400649	0,400649
6	0,433880	0,433893	0,433893	0,400090	0,400173	0,400173
7	0,31234	0,31234	0,31234	0,399877	0,399896	0,399896
8	0,23557	0,23554	0,23554	0,400135	0,399722	0,399722
9		0,18395	0,18395		0,399604	0,399604
12		0,10110	0,10110		0,399416	0,399416
16		0,05590	0,05590		0,399313	0,399313
20		0,03541	0,03541		0,399267	0,399267
30		0,01553	0,01553		0,399222	0,399222
40		0,00868	0,00868		0,399206	0,399206
50		0,00553	0,00553		0,399199	0,399199
75		0,00244	0,00244		0,399192	0,399192
100		0,00137	0,00137		0,399189	0,399189
200		0,00034	0,00034		0,399187	0,399187

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[2] Kramida, A., Ralchenko, Yu., Reader, J., and NIST ASD Team (2015). *NIST Atomic Spectra Database* (ver. 5.3), [Online]. Available: http://physics.nist.gov/asd [2016, May 18]. National Institute of Standards and Technology, Gaithersburg, MD.

[3] Kramida, A., Ralchenko, Yu., Reader, J., and NIST ASD Team (2014). *NIST Atomic Spectra Database* (ver. 5.2), [Online]. Available: http://physics.nist.gov/asd [2016, May 18]. National Institute of Standards and Technology, Gaithersburg, MD.

Abbreviations Table
Following Table indicates abbreviations used in this theory and its use in article in question is marked with X. 10 is [1] and 11 is present article.

Abbreviation	10	11	Meaning
AC	X		Actual Change
BES	X	X	Born Electronic System
E_d	X	X	Excited state destiny energy
E_{dI}		X	Excited state destiny energy obtained from ideal E_d
E_{dR}		X	Reference destiny energy
E_{dRI}		X	Ideal E_{dR} obtained from extrapolation of others E_{dR} satisfying Relation of Riquelme de Gozy
E_{dS}		X	Excited state destiny energy in Serelles Secondary Line
E_J	X	X	Jump energy in Torrebotana Central Line
$E_{J, R}$	X		Referenced E_J to IE
E_{JS}		X	Jump energy in Serelles Secondary Line
E_k	X	X	Reference Jump energy
$E_{k, R}$	X		Referenced E_k to IE
E_o	X	X	1s OES Ionization energy
El	X	X	Es, Ep, Ed and Ef are energies to reach ns, np, nd & nf
IE	X	X	Ionization energy
l	X	X	Orbital quantum number
LAN	X	X	Serelles Secondary Lines Factor
LAN_I LAN_{RI}		X	Ideal LAN obtained from E_d or E_{dRI}
LAN_R		X	LAN with reference data
$LAN_{R,M}$		X	LAN_R with modification
LAN(P50)		X	Initial LAN value in ns to ns jump. LAN with IE
n	X	X	Principal quantum number
$n_{initial}$ or n_s		X	n of non-excited electron
NIN	X		Negative in negative
OES	X	X	Origin Electronic System
RC	X		Relative Change
z	X		Effective nuclear charge
Z	X		Atomic Number
z_{CT}	X	X	Excited state charge
z_o	X	X	1s Origin charge according to P46
z_s	X	X	Start charge according to P46
z_{SS}		X	Serelles secondary charge

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	03	Relations between electronic extremes: Rotation time as probability and Feliz I.
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	05	Feliz III The King Major: Orbital filled keeping Probability electronic distribution.
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	22	Electron Probability: PUB C_{PEP} II in "Flui BAR" (Flui (BES A (Global Advance) Region)
	23	Orbital capacity by advancement of numbers - Electron Probability: PUB C_{PEP} III: "Flui BAR" II and $C_{PEP\text{-}i}$
	24	Electron Probability: 1s electron birth: The last diligence to Poti Rock & Snow Hill Victoria
24 hours of new day		