15/12/24

DRAFT PAPER CDK 29

BEING A TABLE OF RADIOACTIVE DECAY RATES IN PERIODIC FORM

I. E. ACCORDING TO THE YEARS ELAPSED SINCE THE FALL IN LIGHT SPEED.

ALSO ACCORDING TO A PRIMORDIAL DIVISION OF DECAY RATE, WHICH APPEARS AS A DESIGNATED CONSTANT IN EACH DECAY RATE. — PRIMORDIAL, IN THE SENSE THAT ALL DECAYABLE MATERIAL WAS ASSIGNED ITS NUMBER AT THE FALL inc - AT THE START OF RADIO DECAY.

PRESENTING....

TABLE 2 (periodic)
WHICH IS THE TRUE FORM OF
TABLE 2 (quantized)

Sheet 1/10

1·44 × 3000 = 4320

4320 / ·693 = 6223

INTRODUCTION TO... Compiled 15/12/24

TABLE 2 (PERIODIC)

DECAY RATES IN PERIODIC FORM

i.e. BY YEARS ELAPSED SINCE FALL IN LIGHT SPEED

COMPRISING, e.g.

Bi 215	1·44 × 10⁻⁵	3	3000/6233/10⁻⁵

ALL Th 232

Table 1a Nuclide

NUCLIDE	PUBLISHED HALF TIME	PRIMORDIAL DIVISION No AT FALL IN LIGHT SPEED	PRIMORDIAL DIVISION CONSTANT	YEARS ELAPSED SINCE FALL. 6233 AT 2015 A.D	DECAY TIME: 10⁻⁵ YEARS TO DECAY 3000 PARTS/6233 PARTS
			PARTS/	PARTS/	YEARS

No foreign gentleman's cat involved.

ABBREVIATIONS:

$_q\gamma$ = quantized half time

$_q\lambda$ = — " — decay rate

$_p\lambda$ = periodic decay rate.

2015? (See Notes, CDK 16, Page 3. For useful year for T to λ conversion and vice versa)

METHODOLOGY.

The quantized decay constants are thus...

e.g. Bi 215 " " = ·2. (Table 2)

This is, $_q\lambda$ = ·2 × ·00024..... × 10 a power.

Now, by Tifft Compression,

·00024... = 1·5/years elapsed since Fall in light speed

and at 2015 A.D

= 1·5/6233.

The ·2 can be represented as 2; then...

$_p\lambda$ for Bi 215 = 2 × 1·5/6233

OR 3/6233,

the powers of ten then being obtained from ·693/published half time. Sheet 2/10

TABLE 2.p (periodic)

Periodicity in the radioactive decay rates of the members of the three naturally occurring radioactive transformation series

Compiled 15/12/24

TABLE 1a PARENT NUCLIDES IN THEIR PERIODIC POSITIONS

	SHORTS MEMBER	PUBLISHED HALF TIME, τ	PRIMORDIAL DIVISION No AT FALL IN LIGHT SPEED	P.D. No INC 10 POWER	YEARS SINCE FALL: 2015 A.D. VALUE	YEARS FOR e.g. 500 PARTS PER 6233 PARTS TO DECAY
	LIGHT	8640	·5	500/6233/10^{3}		
	Ra 228	5.8	·75	750/6233/10^{0}		
	Po 218	5.7×10^{-6}	·75	750/6233/10^{-6}		
	Po 215	5.7×10^{-7}	·75	750/6233/10^{-7}		
	$q\tau$	43.2 ; 4.32×10^{1}	1	1000/6233/10^{1}		
	$q\tau$	28·8 ; 2.88×10^{1}	1·5	1500/6233/10^{1}		
Nd 144	Ac 227	22	2	2000/6233/10^{1}		
	Pb 210	22	2	2000/6233/10^{1}		
	Th 228	1.9	2·25	2250/6233/10^{0}		
Th 232	Bi 215.	1.44×10^{-5}	3	3000/6233/10^{-5}		
U 235	$q\tau$	7.2 ; 7.2×10^{0}	6	600/6233/10^{0}		
Rb 87	At 218	4.75×10^{-8}	9	900/6233/10^{-8}		
	Po 216	4.75×10^{-9}	9	900/6233/10^{-9}		
Lu 176	$q\tau$	3.6 ; 3.6×10^{0}	12	1200/6233/10^{0}		
	Pa 234m	2.28×10^{-6} *	18	1800/6233/10^{-6}		
	Rn 220	1.77×10^{-6}	24	2400/6233/10^{-6}		
	Ra 226	1600	27	2700/6233/10^{3}		
	Po 211	1.58×10^{-8}	27	2700/6233/10^{-8}		
K 40	Pb 212	·00121	36	3600/6233/10^{-3}		
	Bi 212	·000114 *	36	3600/6233/10^{-4}		
Sm 148	Th 230	80,000	54	540/6233/10^{4}		
	Tl 206	7.99×10^{-6}	54	540/6233/10^{-6}		
Pt 190	Tl 208	5.89×10^{-6}	72	720/6233/10^{-6}		
Re 187	Fr 223	4.18×10^{-5} *	108	1080/6233/10^{-5}		
	Bi 211	4.18×10^{-6} *	108	1080/6233/10^{-6}		
	Th 231	·00297	144	1440/6233/10^{-3}		
	Ra 223	·0301	144	1440/6233/10^{-2}		

* See Comments, Table 2.

Sheet 3/10

PRODUCED BY...
Independent Science News
for www.lollo.org.nz
c/o UNIV. OF AUCKLAND, N.Z.

Hf 174
Te 130

? T	·2 ; 2×10^{-1}	216	(2160/6233/10^{-1})
? T	·2 ; 2×10^{-1}	216	(2160/6233/10^{-1})
Bi 210	·0137	324	3240/6233/10^{-2}
Ra 224	·0101	432	4320/6233/10^{-2}
Rn 222	·0104	432	4320/6233/10^{-2}
~~Rn 218~~	~~1.11×10^{-10}~~ *	~~432~~	~~4320/6233/10^{-10}~~
Po 212	9.51×10^{-15}	432	432/6233/10^{-15}
Tl 207	9.13×10^{-6} *	432	432/6233/10^{-6}
Pa 234	·000764	576	576/6233/10^{-4}
Th 234	·0657	648	648/6233/10^{-2}
Ac 228	·000696	648	648/6233/10^{-4}
Pb 211	6.84×10^{-5}	648	648/6233/10^{-5}
Th 227	·0520	864	864/6233/10^{-2}
Pb 214	5.13×10^{-5}	864	864/6233/10^{-5}
Po 214	5.07×10^{-12}	864	864/6233/10^{-12}
Bi 214	3.8×10^{-5}	1152	1152/6233/10^{-5}
Po 210	·378	1152	1152/6233/10^{-1}
Pa 231	33,000	1296	1296/6233/10^{4}
U 234	250,000	1728	1728/6233/10^{5}
Tl 210	2.47×10^{-6}	1728	1728/6233/10^{-6}
? T	·022 ; 2.2×10^{-2}	1944	(1944/6233/10^{-2})
At 219	1.71×10^{-6}	2592	2592/6233/10^{-6}
Rn 219	1.27×10^{-7}	3456	3456/6233/10^{-7}
Rn 218	1.11×10^{-10}	3888	3888/6233/10^{-10}

(all values) do this.
$2.5\times1728=4320$
$3.3\times1296=4320$

* See Comments, Table 2.
* " " "

Sheet 4/10

TABLE 2 Quantization in the radioactive decay rates of the members of the three naturally occurring radioactive transformation series.

Compiled 13/1/2015

(Compare Table 1a).

Parent Nuclide	Transformation Series Member	Quantized ½ Time Position	.33 x 24 etc	Quantized Decay Rate x 2.406(25)	all Per 6242 years @ 2024 A.D.	Half Time in Years	Fractional Relationships of New ½ Times e.g. 57.6/86.4 = 2/3, 43.2/57.6 = 3/4	Comments
		172.8						
		129.6						
Light		86.4	8	.033	1/2			
	Ra228	(57.6)	12	.05	3/4	5.8	2/3, 3/4	
	Po218	"		"		5.7×10^{-6}	" "	
	Po215	"		"		5.7×10^{-11}	" "	
		43.2	16	.066	1			Independent Science News
		28.8	24	.1	1 ½			for www.lollo.org.nz
Nd144	Ac227	21.6	32	.133	2	22		c/o Univ of Auckland, N.Z.
	Pb210	"		"		22		
	Th228	(19.2)	36	.15	2 ¼	1.9	8/9, 3/4	
Th232	Bi215	14.4	48	.2	3	1.44×10^{-5}		
U235		7.2	96	.4	6			
Rb87	At218	4.8	144	.6	9	4.75×10^{-8}		432/27 = 16 (all)
	Po216	"		"		4.75×10^{-9}		1000/6242 = .16 ✓
Lu176		3.6	192	.8	12			
	Pa234 m	2.4	288	1.2	18	2.28×10^{-6}		Or, 21.6 position?
	Rn220	(1.8)	384	1.6	24	1.77×10^{-6}	3/4, 2/3	
	Ra226	(1.6)	432	1.8	27 (16)	1600	2/3, 3/4	
	Po211	"		"		1.58×10^{-8}	" "	
K40	Pb212	1.2	576	2.4	36	.00121		
	Bi212	"		"		.000114		1.1 on Table 1b?
Sm148	Th230	.8	864	3.6	54	80,000	54/6242/10⁵	
	Tl206	"		"		7.99×10^{-6}		
Pt190	Tl208	.6	1152	4.8	72	5.89×10^{-6}		
Re187	Fr223	.4	1728	7.2	108	4.18×10^{-5}		
	Bi211	"		"		4.18×10^{-6}		Or, 43.2 position?
	Th231	(.3)	2304	9.6	144	.00297	3/4, 2/3	Or, 43.2 position?
	Ra223	"		"		.0301	" "	
Hf174		.2	3456	14.4	216			
Te130		"		"				
	Bi210	.133	5184	21.6	324	.0137		
	Ra224	.1	6912	28.8	432	.0101		
	Rn222	"		"		.0104		
	~~Rn218~~	"		"		1.11×10^{-10}		1.1 on Table 1b?
	Po212	"		"		9.51×10^{-15}		
	Tl207	"		"		9.13×10^{-6}		9/10 on Table 1b?
	Pa234	(.075)	9216	38.4	576	.000764	3/4, 8/9	
	Th234	.066	10368	43.2	648	.0657		
	Ac228	"		"		.000696		
	Pb211	"		"		6.84×10^{-5}		
	Th227	(.05)	13824	57.6	864	.0520	3/4, 2/3: 5.1 on Table 1b?	
	Pb214	"		"		5.13×10^{-5}	" " " " " "	
	Po214	"		"	76.8	5.07×10^{-12}	" " " " " "	
error	Bi214	(.0375)	18864	78.6	1152	3.80×10^{-5}	(3/4), 8/9: (.0375/.05)	
	Po210	"		"		.378	" "	
	Pa231	.033	20736	86.4	1296	33,000		
	U234	(.025)	27648	115.2	1728	250,000	3/4, 8/9	
	Tl210	"		"		2.47×10^{-6}	" "	Sheet 5/10
		.022	31104	129.6	1944			
	At219	.0166	41472	172.8	2592 ✓	1.71×10^{-6}	Or, 172.8 position?	
	Rn219	(.0125)	55296	230.4	3456	1.27×10^{-7}	3/4, 8/9: 129.6 position?	
	Rn218	.011	62370	259.2	3888	Connects Table 1a to Table 1b		

TABLE 2.p Periodic form of the Quantized Radiodecay Rate as at 2024 A.D. 6242 years of decay since Fall in light speed!

(Compare Table 2) Compiled 19/11/2024

Parent Nuclide	Transformation Series Member	Quantized Position.	Periodic Decay Rate (6242) (pλ)	Quantized Decay Rate $\times 2.406^{(25)}$ (qλ)
Light		86.4	1/2/6242	.033
	Ra_{228}	(57.6)	3/4/6242	.05
	Po_{218}	"	"	
	Po_{215}	"	"	
		43.2	1/6242	.066
		28.8	1½/6242	.1
			2	.133
			(2 & 1/4)/6242	.15
			3	.2
			6	.4
			9	.6
			12	.8
			18	1.2
			(24)	1.6
			(27)	1.8
			36	2.4
			54	3.6
			72	4.8
			108	7.2
			(144)	9.6
			216	14.4
			324	21.6
			432	28.8
			(576)	38.4
			648	43.2
			(864)	57.6
1152			~~(1179)~~	~~78.6~~ 76.8
			1296	86.4
			(1728)	115.2
			1944	129.6
			2592	172.8
			(3456)	230.4
			3888	~~259.2~~ ✓

Sheet 6/10

e.g Light ½ Periodic Primary No. per 6242 years of Decay since Fall per 10^0 Scale factor per 1 year. @ 2024 A.D.

Worksheet (4)

Po 210 $\tau = .378 = 3.78 \times 10^{-1}$

$q\tau = .0375$, $\lambda = \frac{.693}{3.75 \times 10^{-1}} = \frac{.1848}{10^{-1}}$

@ 2015 A.D. $p\lambda = \frac{.1848}{6233} \times 6233 / 10^{-1} = 1152/6233/10^{-1}$

Pa 231 $33{,}000 = \tau_{.} = 3.3 \times 10^4$ years.

$q\tau = .03\dot{3}$ $\lambda = \frac{.693}{3.\dot{3} \times 10^4} = \frac{0.2079\ldots}{10^4}$

$p\lambda = \frac{0.2079}{6233} \times 6233 / 10^4 = 1296/6233/10^4$

U 234 $\tau = 250{,}000 = 2.5 \times 10^5$

$q\tau = .025$ $\lambda = \frac{.693}{2.5 \times 10^5} = \frac{.2772}{10^5}$

$p\lambda = \frac{.2772}{6233} \times 6233 / 10^5 = 1728/6233/10^5$

Tl 210 $\tau = 2.47 \times 10^{-6}$

$q\tau = .025$ $\therefore p\lambda =$ 1728/6233/10^{-6} (as above)

GAP $q\tau = .02\dot{2}$ use $2.\dot{2} \times 10^{-2}$

$\lambda = \frac{.693}{2.\dot{2} \times 10^{-2}} \therefore p\lambda = 1944/6233/10^{-2}$

At 219 $\tau = 1.71 \times 10^{-6}$ $q\tau = 1.6\dot{6} \times 10^{-6}$

$\lambda = \frac{.693}{1.6\dot{6} \times 10^{-6}} = \frac{0.4158\ldots}{10^{-6}}$ $p\lambda = \frac{0.4158}{6233} \times 6233 / 10^{-6}$

$p\lambda$ $= 2592/6233/10^{-6}$

Rn 219 $\tau = 1.27 \times 10^{-7}$ $q\tau = 1.25 \times 10^{-7}$

$\lambda = \frac{.693}{1.25 \times 10^{-7}} = \frac{0.5544}{10^{-7}}$, $p\lambda = \frac{0.5544}{6233} \times 6233 / 10^{-7}$

$= 3456/6233/10^{-7}$

~~GAP~~ $q\tau$ .011, use $1.\dot{1} \times 10^{-2}$ (ie $10/9 \times 10^{-2}$) Sheet 7/10

$\lambda = \frac{.693}{1.\dot{1} \times 10^{-2}} = \frac{0.6237}{10^{-2}}$, $p\lambda = \frac{0.6237}{6233}$ etc $= 3888/6233/10^{-2}$

Rn 218

$6237 \div 9 = 693$

ie $\times 10/9$

Oh — $10/9 \times 6233 = 6925.\dot{5} \doteq .693 = \ln 2$.

Worksheet (3) .0135? $\frac{10}{9} \times 1.5$ } Table 6?

Bi 210 $\tau = .0137 = 1.37 \times 10^{-2}$ $q\tau = 1.3\dot{3}$

$\lambda = \frac{.693}{1.37 \times 10^{-2}} = \frac{.5197}{10^{-2}}$

$(1.3\dot{3})$

@2015 A.D, $p\lambda = .5197 \times 6233/6233/10^{-2}$

$= 3240/6233/10^{-2}$

i.e. 3240 parts / 6233 parts / 10^{-2} years

WORKED EXAMPLE

.2 $q\tau = .2$ $\tau = 2 \times 10^{-1}$ $\lambda = \frac{.693}{2 \times 10^{-1}} = (p\lambda)\ 2160/6233/10^{-1}$

Ra 224 $\tau = .0101 = 1.01 \times 10^{-2}$

$q\tau = .1$ $\lambda = \frac{.693}{1.00 \times 10^{-2}} = (p\lambda)\ 4320/6223/10^{-2}$

Rn 222, $p\lambda$ = Same as Ra 224

Rn 218, $p\lambda = 4320/6223/10^{-10}$

* Po 212 $\tau = 9.51 \times 10^{-15}$, assume 10×10^{-15} which is 1×10^{-14}

$\lambda = \frac{.693}{1} \times 10^{-14}$. $p\lambda = 4320/6233/10^{-14}$

Tl 207 $\tau = 9.13 \times 10^{-6}$, assume 10×10^{-6} or 1×10^{-5}

$\lambda = \frac{.693}{1 \times 10^{-5}}$ $p\lambda = 4320/6233/10^{-5}$

Pa 234 $\tau = .000764$ $q\tau = .000.7.5 = 7.5 \times 10^{-4}$

$\lambda = \frac{.695}{7.5 \times 10^{-4}} = \frac{.0926}{10^{-4}}$ $p\lambda = \frac{.0926 \times 6233}{6233} / 10^{-4}$

$= 576/6233/10^{-4}$

Th 234 $\tau = .06.57 = 6.57 \times 10^{-2}$ $p\tau = 6.\dot{6} \times 10^{-2}$

$\lambda = \frac{.693}{6.6 \times 10^{-2}} = 648/6233/10^{-2}\ (p\lambda)$

Acc 228 $\tau = .000696 = 6.66\dot{6} \times 10^{-4}$ $(q\tau)$

$\lambda = \frac{.693}{6.66 \times 10^{-4}} = 648/6233/10^{-4}$ Sheet 8/10

Pb 211 $\tau = 6.84 \times 10^{-5}$ $p\lambda = 648/6233/10^{-5}$

Th 227 $\tau = .05.20 = 5 \times 10^{-2}\ (q\tau)$

$p\lambda = 864/6233/10^{-2}$

(Pb 214, Po 214 similar but for power of 10)

* See notes, Table 2

WORK SHEET. Sheet (2) 12/12/24.

$\tau = 43.2 = 4.32 \times 10^1$

$\lambda = \frac{.693}{4.32 \times 10^1} \Rightarrow 1000/6233/10^1$

$\tau = 3.6$ $\lambda = \frac{.693}{3.6 \times 10^0} =$

Pa 234 m $\tau = 2.28 \times 10^{-6}$ $\lambda = \frac{.693}{2.4 \times 10^{-6}} = p\lambda\ 1800/6233/10^{-6}$

$q\tau = 2.4$

Rn 220 $\tau = 1.77 \times 10^{-6}$ $\lambda = \frac{.693}{1.8 \times 10^{-6}} = 2400/6233/10^{-6}$

$q\tau = 1.8$

Ra 226 $\tau = 1600 = 1.6 \times 10^3$

$\lambda = \frac{.693}{1.6 \times 10^3} = (p\lambda)\ 2700/6233/10^3$

Po 211 $\tau = 1.58 \times 10^{-8}$ $\lambda = \frac{.693}{1.58 \times 10^{-8}} = 2700/6233/10^{-8}$

$q\tau = 1.6$

Pb 212 $\tau = .000121$ $\lambda = \frac{.693}{1.2 \times 10^{-3}} = p\lambda = 3600/6233/10^{-3}$

$= 1.2 \times 10^{-3}$

Bi 212 $\tau = .000114$ $\lambda = \frac{.693}{1.2 \times 10^{-4}}$ $\therefore p\lambda = 3600/6233/10^{-4}$ *

$= 1.14 \times 10^{-4}$

$q\tau = 1.2 \times 10^{-4}$

Tl 230 $\tau = 80{,}000 = 8 \times 10^4$ $\lambda = \frac{.693}{8 \times 10^4} = 540/6233/10^4$ ✓✓

Tl 206 $\tau = 7.99 \times 10^{-6}$ $\lambda = \frac{.693}{8 \times 10^{-6}}$ $p\lambda = 540/6233/10^{-6}$ ✓✓

Tl 208 $\tau = 5.89 \times 10^{-6}$ $\lambda = \frac{.693}{6 \times 10^{-6}} = p\lambda = 720/6233/10^{-6}$

$q\tau = 6 \times 10^{-6}$

Fr 223 $\tau = 4.18 \times 10^{-5}$ $\lambda = \frac{.693}{4 \times 10^{-5}} = p\lambda = 1080/6233/10^{-5}$

$q\tau = .4$

Tl 231 $\tau = .00297$ $q\tau = 3 \times 10^{-3}$ $\lambda = \frac{.693}{3 \times 10^{-3}} = (p\lambda)\ 1440/6233/10^{-3}$

$= 2.97 \times 10^{-3}$

Ra 223 $\tau = .0301$ $\lambda = \frac{.693}{3 \times 10^{-2}} = (p\lambda)\ 1440/6233/10^{-2}$ ✓

$= 3 \times 10^{-2}$

Sheet 9/10

WORK SHEET 1 10/12/24

Po 216. $\tau = 4.75 \times 10^{9}$ $\lambda = \frac{.693}{4.75 \times 10^{9}} = .0146 / 10^{-9}$

$.0146 \times 6233 = 91.$

$\therefore p\lambda = 91/6233/10^{-9}$ ie 90

At 218. $\tau = 4.8 \times 10^{-8}$ $\lambda = \frac{.693}{4.8 \times 10^{-8}} = .1444 / 10^{-8}$

$.1444 \times 6233 = 900$

$900/6233/10^{-8}$ years ✓

Bi 215 $\tau = 1.44 \times 10^{-5}$ $\lambda = \frac{.693}{1.44 \times 10^{-5}} = .481.$

$.481 \times 6233 = 3000.$

$p\lambda = 3000/6233/10^{-5}$

TW 228 $\tau = 1.9.$ $\lambda = \frac{.693}{1.9 \times 10^{0}} = .365 / 10^{0}$

$q\tau = (1.92)$

$.365 \times 6233 = 2275$

$p\lambda = 2250/6233/10^{0}$

2¼ ✓

Pb 210 $\tau = 22$ $\lambda = \frac{.693}{22 \times 10^{0}} = .032083 \times 6233 = 200.$

$q\tau = (21.6)$

$p\lambda = 200/6233/10^{0}$

Ac 227 $\tau = 22$ $p\lambda = 200/6233/10^{0}$ — 4 —

— $\tau = (28.8 \times 10^{0})$ $\lambda = \frac{.693}{28.8 \times 10^{0}} = .0240625 \times 6233 =$

$p\lambda = (150/6233/10^{0})$

— $\tau = (43.2 \times 10^{0})$ $\lambda = \frac{.693}{43.2 \times 10^{0}} = .016041\dot{6}$ (×6233)

$p\lambda = (100/6233/10^{0})$

Po 215 $\tau = 5.7 \times 10^{-7}$ $\lambda = \frac{.693}{5.76 \times 10^{-7}} = .1203125 / 10^{-7}$ (×6233)

$q\tau = (57.6)$

$p\lambda = 750/6233/10^{-7}$

---

a 255 positron only $q\tau = 7.2 \times 10^{0}$ $\lambda = \frac{.693}{7.2 \times 10^{0}} = 600/6233/10^{0}$

Po 218 $\tau = 5.7 \times 10^{-6}$, $p\lambda = 750/6233/10^{-6}$ ✓

Ra 228 $\tau = 5.8$ $\lambda = \frac{.693}{5.8 \times 10^{0}} = 750/6233/10^{0}$ Sheet 10/10

$q\tau = 57.6$

Liair $\tau = 8640$ $\lambda = \frac{.693}{8.640 \times 10^{3}} = .0802.. = 500/6233/10^{3}$