



1 Decay Scheme

Am-241 decays 100% by alpha transitions to Np-237. Most of the decay (84.6 %) populate the excited level of Np-237 with energy of 59.54 keV. Branching of Am-241 decay by spontaneous fission is 3,6 (9) E-10 %.

L'américium 241 se désintègre à 100 % par émission alpha vers le neptunium 237. Le branchement principal (84,6 %) se fait vers le niveau excité de 59 keV. Un faible branchement (3,6 (9) E-10 %) par fission spontanée a été observé.

2 Nuclear Data

$T_{1/2}(^{241}\text{Am})$:	432,6	(6)	a
$T_{1/2}(^{237}\text{Np})$:	2,144	(7)	10^6 a
$Q^\alpha(^{241}\text{Am})$:	5637,82	(12)	keV

2.1 α Transitions

	Energy keV	Probability $\times 100$	F
$\alpha_{0,36}$	4838,00 (13)	0,00004 (3)	47
$\alpha_{0,34}$	4882,14 (13)	0,000086	44
$\alpha_{0,33}$	4915,86 (13)	0,0007	9,5
$\alpha_{0,32}$	4971,62 (15)		
$\alpha_{0,30}$	5039,83 (15)		
$\alpha_{0,29}$	5045,49 (14)		
$\alpha_{0,28}$	5047,73 (13)		
$\alpha_{0,27}$	5091,70 (14)	0,0001	1000
$\alpha_{0,25}$	5140,81 (13)		
$\alpha_{0,24}$	5151,60 (15)	0,00011	2300
$\alpha_{0,23}$	5178,13 (13)	$\sim 0,0004$	~ 1000
$\alpha_{0,22}$	5185,27 (13)	$\sim 0,0004$	~ 1000
$\alpha_{0,21}$	5193,04 (16)		
$\alpha_{0,20}$	5203,70 (13)	0,0004	1400

	Energy keV	Probability × 100	F
$\alpha_{0,19}$	5219,6 (2)		
$\alpha_{0,18}$	5242,25 (13)	0,0007	1400
$\alpha_{0,17}$	5266,89 (13)	0,0003	4600
$\alpha_{0,16}$	5269,21 (13)	0,0009	1600
$\alpha_{0,15}$	5277,90 (23)	0,0006	2700
$\alpha_{0,14}$	5305,44 (13)		
$\alpha_{0,13}$	5313,40 (13)	0,0013	2100
$\alpha_{0,12}$	5321,0 (3)		
$\alpha_{0,11}$	5332,77 (13)	0,0022 (3)	1600
$\alpha_{0,9}$	5370,25 (13)	0,0005	12000
$\alpha_{0,8}$	5411,82 (13)	0,014 (3)	770
$\alpha_{0,6}$	5479,32 (13)	1,66 (3)	16,4
$\alpha_{0,5}$	5507,83 (13)	~ 0,01	≈ 4000
$\alpha_{0,4}$	5534,86 (12)	13,23 (10)	4,3
$\alpha_{0,3}$	5561,92 (12)	< 0,04	> 2000
$\alpha_{0,2}$	5578,28 (12)	84,45 (10)	1,3
$\alpha_{0,1}$	5604,62 (12)	0,23 (1)	600
$\alpha_{0,0}$	5637,82 (12)	0,38 (1)	610

2.2 Gamma Transitions and Internal Conversion Coefficients

	Energy keV	$P_{\gamma+ce}$ × 100	Multipolarity	α_K	α_L	α_M	α_T
$\gamma_{10,9}(\text{Np})$	13,81 (2)		M1 + 0,10 % E2			365 (7)	494 (10)
$\gamma_{2,1}(\text{Np})$	26,34460 (24)	21 (5)	E1 anomalous		6 (2)	1,6 (2)	8 (2)
$\gamma_{4,3}(\text{Np})$	27,06 (1)						
$\gamma_{27,26}(\text{Np})$	31,92 (8)						
$\gamma_{(-1,1)}(\text{Np})$	32,183	0,0174 (4)					
$\gamma_{1,0}(\text{Np})$	33,1963 (3)	21,3 (30)	M1 + 1,66 % E2		131 (17)	33 (5)	175 (24)
$\gamma_{17,14}(\text{Np})$	38,54 (3)		M1 + > 30 % E2		> 94	> 345	> 472
$\gamma_{3,1}(\text{Np})$	42,704 (5)	≈ 0,42 (9)	(M1 + ≈ 1,7 % E2)		≈ 56 (5)	≈ 13,9 (14)	≈ 75 (7)
$\gamma_{4,2}(\text{Np})$	43,420 (3)	12,1 (16)	M1 + 16,6 % E2		132 (17)	35 (5)	180 (23)
$\gamma_{14,10}(\text{Np})$	51,01 (3)	0,000046 (21)	E1		0,564 (11)	0,141 (3)	0,753 (11)
$\gamma_{5,3}(\text{Np})$	54,09 (3)						
$\gamma_{6,4}(\text{Np})$	55,56 (2)	1,19 (16)	M1 + 17,5 % E2		48 (4)	12,6 (11)	65 (6)
$\gamma_{13,9}(\text{Np})$	56,86 (3)						
$\gamma_{(-1,2)}(\text{Np})$	57,85 (5)						
$\gamma_{2,0}(\text{Np})$	59,5409 (1)	77,6 (25)	E1 anomalous		0,84 (6)	0,226 (7)	1,16 (7)
$\gamma_{7,5}(\text{Np})$	61,56 (7)						
$\gamma_{14,9}(\text{Np})$	64,83 (2)	0,000196 (28)	E1		0,301 (6)	0,0744 (15)	0,400 (8)
$\gamma_{8,6}(\text{Np})$	67,50 (2)	0,013 (4)	(M1 + 17 % E2)		22 (5)	5,7 (13)	29 (6)
$\gamma_{4,1}(\text{Np})$	69,76 (3)	0,0039 (5)	(E1)		0,248 (5)	0,0612 (12)	0,330 (7)
$\gamma_{3,0}(\text{Np})$	75,90 (1)	0,032	(E2)		38,6 (8)	10,76 (22)	53,1 (11)
$\gamma_{36,33}(\text{Np})$	77,86 (4)						
$\gamma_{11,8}(\text{Np})$	79,05 (3)						
$\gamma_{15,9}(\text{Np})$	92,35 (20)						
$\gamma_{5,1}(\text{Np})$	96,79 (3)	0,000047 (16)					
$\gamma_{6,2}(\text{Np})$	98,97 (2)	0,329 (10)	E2		11,07 (22)	3,08 (6)	15,2 (3)

	Energy keV	$P_{\gamma+ce}$ $\times 100$	Multipolarity	α_K	α_L	α_M	α_T
$\gamma_{4,0}(\text{Np})$	102,98 (2)	0,0218 (5)	E1		0,0895 (18)	0,0219 (4)	0,1189 (24)
$\gamma_{(-1,3)}(\text{Np})$	106,42 (5)						
$\gamma_{20,13}(\text{Np})$	109,70 (7)	0,000051	[E2]		6,86 (14)	1,91 (4)	9,44 (19)
$\gamma_{7,3}(\text{Np})$	115,65 (6)						
$\gamma_{21,13}(\text{Np})$	120,36 (8)						
$\gamma_{8,4}(\text{Np})$	123,05 (1)	0,00675 (30)	E2	0,184 (4)	4,05 (8)	1,127 (23)	5,75 (12)
$\gamma_{6,1}(\text{Np})$	125,30 (2)	0,00533 (26)	(E1)	0,228 (5)	0,0538 (11)	0,0132 (3)	0,299 (6)
$\gamma_{(-1,4)}(\text{Np})$	128,05						
$\gamma_{20,11}(\text{Np})$	129,07 (6)						
$\gamma_{23,13}(\text{Np})$	135,27 (4)						
$\gamma_{(-1,5)}(\text{Np})$	136,7						
$\gamma_{30,23}(\text{Np})$	138,30 (9)						
$\gamma_{29,22}(\text{Np})$	139,44 (8)	0,000023 (5)	[E2]	0,211 (4)	2,29 (5)	0,638 (13)	3,37 (7)
$\gamma_{11,6}(\text{Np})$	146,55 (3)	0,00172 (5)	E2	0,210 (4)	1,83 (4)	0,51 (1)	2,73 (6)
$\gamma_{8,3}(\text{Np})$	150,04 (3)	0,000087 (6)	[E1]	0,152 (3)	0,0339 (7)	0,00827 (17)	0,197 (4)
$\gamma_{26,15}(\text{Np})$	154,27 (20)	0,000004	[M1]	5,59 (11)	1,108 (22)	0,269 (6)	7,06 (14)
$\gamma_{(-1,6)}(\text{Np})$	156,4 (3)						
$\gamma_{29,20}(\text{Np})$	159,26 (20)	0,0000016 (6)	[E1]	0,132 (3)	0,0292 (6)	0,00711 (14)	0,171 (4)
$\gamma_{24,13}(\text{Np})$	161,54 (10)	0,000011	[M1]	4,91 (10)	0,971 (19)	0,236 (5)	6,20 (12)
$\gamma_{9,4}(\text{Np})$	164,61 (2)	0,000178 (9)	E2	0,195 (4)	1,095 (22)	0,304 (6)	1,70 (4)
$\gamma_{13,6}(\text{Np})$	165,81 (6)	0,00011 (5)	[M1 + E2]	2,4 (22)	0,98 (8)	0,26 (4)	3,7 (22)
$\gamma_{18,8}(\text{Np})$	169,56 (3)	0,000427 (26)	E2	0,189 (4)	0,961 (19)	0,267 (6)	1,51 (3)
$\gamma_{11,5}(\text{Np})$	175,07 (4)	0,000021 (3)	[E1]	0,1066 (21)	0,0230 (5)	0,00560 (11)	0,137 (3)
$\gamma_{(-1,7)}(\text{Np})$	190,4						
$\gamma_{25,11}(\text{Np})$	191,96 (4)	0,0000415 (20)	[E2]	0,162 (3)	0,561 (11)	0,155 (3)	0,932 (19)
$\gamma_{29,18}(\text{Np})$	196,76 (8)	0,0000054	[E1]	0,0816 (16)	0,0172 (4)	0,00418 (9)	0,1045 (21)
$\gamma_{(-1,8)}(\text{Np})$	201,70 (14)	0,0000008					
$\gamma_{18,7}(\text{Np})$	204,06 (6)	0,00000226 (7)	[E1]	0,0752 (15)	0,0157 (3)	0,00382 (8)	0,0960 (19)
$\gamma_{9,2}(\text{Np})$	208,005 (23)	0,00313 (6)	M1 + 2,38 % E2	2,35 (5)	0,473 (9)	0,1149 (23)	2,98 (6)
$\gamma_{13,4}(\text{Np})$	221,46 (3)	0,00011 (5)	[M1 + E2]	1,1 (10)	0,35 (5)	0,090 (7)	1,5 (10)
$\gamma_{26,10}(\text{Np})$	232,81 (5)	0,0000155 (4)	[M1]	1,76 (4)	0,345 (7)	0,0837 (17)	2,22 (5)
$\gamma_{9,1}(\text{Np})$	234,40 (4)	0,0000080 (8)	M2	5,60 (11)	1,95 (4)	0,511 (10)	8,24 (17)
$\gamma_{26,9}(\text{Np})$	246,73 (10)	0,00000703 (22)	[M1]	1,49 (3)	0,294 (6)	0,0711 (14)	1,88 (4)
$\gamma_{13,3}(\text{Np})$	248,52 (3)	0,00000155 (3)	[E1]	0,0482 (10)	0,00975 (20)	0,00236 (5)	0,0612 (12)
$\gamma_{24,8}(\text{Np})$	260,22 (9)						
$\gamma_{22,7}(\text{Np})$	261,00 (7)	0,00000169 (8)	[E2]	0,0979 (20)	0,156 (3)	0,0428 (9)	0,312 (6)
$\gamma_{27,10}(\text{Np})$	264,76 (7)						
$\gamma_{13,2}(\text{Np})$	264,88 (3)	0,000018 (7)	[M1 + E2]	0,7 (6)	0,19 (5)	0,049 (9)	0,9 (7)
$\gamma_{9,0}(\text{Np})$	267,54 (4)	0,000055 (2)	E1 + 19,4 % M2	0,74 (4)	0,238 (12)	0,062 (2)	1,06 (6)
$\gamma_{(-1,9)}(\text{Np})$	270,63 (15)						
$\gamma_{(-1,10)}(\text{Np})$	271,54						
$\gamma_{20,6}(\text{Np})$	275,77 (8)	0,000011 (4)	[M1 + E2]	0,6 (5)	0,17 (5)	0,043 (9)	0,8 (6)
$\gamma_{27,9}(\text{Np})$	278,04 (15)	0,00000270 (8)	[M1]	1,072 (21)	0,210 (4)	0,0509 (10)	1,35 (3)
$\gamma_{13,1}(\text{Np})$	291,3 (2)	0,00000318 (8)	[E1]	0,0341 (7)	0,00671 (14)	0,00162 (3)	0,0430 (9)
$\gamma_{16,3}(\text{Np})$	292,77 (6)	0,0000173 (4)	[E2]	0,0796 (16)	0,0991 (20)	0,0270 (6)	0,215 (4)
$\gamma_{15,2}(\text{Np})$	300,13 (6)						
$\gamma_{20,5}(\text{Np})$	304,21 (20)	0,000000966 (21)	[E1]	0,0310 (6)	0,00607 (12)	0,00147 (3)	0,0391 (8)
$\gamma_{16,2}(\text{Np})$	309,1 (3)	0,00000210 (31)	[E1]	0,0300 (6)	0,00585 (12)	0,00142 (3)	0,0377 (8)
$\gamma_{12,0}(\text{Np})$	316,8 (2)						
$\gamma_{28,9}(\text{Np})$	322,52 (4)						
$\gamma_{22,5}(\text{Np})$	322,56 (3)	0,000257 (7)	(M1 + 26,5 % E2)	0,541 (8)	0,1204 (17)	0,0297 (5)	0,702 (12)
$\gamma_{(-1,11)}(\text{Np})$	324,69	0,0000018 (3)					
$\gamma_{(-1,12)}(\text{Np})$	329,69	0,0000011 (2)					
$\gamma_{14,0}(\text{Np})$	332,35 (3)	0,000172 (5)	E2	0,0631 (13)	0,0611 (12)	0,0165 (4)	0,147 (3)
$\gamma_{16,1}(\text{Np})$	335,37 (3)	0,00084 (4)	M1 + 17,3 % E2	0,54 (7)	0,113 (8)	0,0278 (10)	0,69 (8)
$\gamma_{17,1}(\text{Np})$	337,7 (2)	0,00000556 (10)	(E2)	0,0612 (12)	0,0575 (11)	0,0156 (3)	0,140 (3)
$\gamma_{(-1,13)}(\text{Np})$	350,71	0,00000139 (5)					
$\gamma_{20,3}(\text{Np})$	358,25 (20)	0,00000133 (5)	[E1]	0,0220 (4)	0,00419 (8)	0,00101 (2)	0,0275 (6)
$\gamma_{16,0}(\text{Np})$	368,62 (3)	0,000347 (9)	(M1)	0,494 (10)	0,0963 (19)	0,0233 (5)	0,622 (12)

	Energy keV	$P_{\gamma+ce}$ $\times 100$	Multipolarity	α_K	α_L	α_M	α_T
$\gamma_{17,0}(\text{Np})$	370,94 (3)	0,000080 (4)	M1 + 16 % E2	0,42 (6)	0,086 (8)	0,0211 (10)	0,53 (7)
$\gamma_{(-1,14)}(\text{Np})$	374,83	0,0000313 (5)					
$\gamma_{22,3}(\text{Np})$	376,65 (3)	0,000225 (9)	(M1)	0,466 (9)	0,0908 (18)	0,0220 (5)	0,586 (12)
$\gamma_{23,3}(\text{Np})$	383,81 (3)	0,000037 (7)	[M1 + E2]	0,25 (20)	0,06 (3)	0,015 (6)	0,33 (23)
$\gamma_{(-1,15)}(\text{Np})$	389,0 (3)	0,0000005					
$\gamma_{(-1,16)}(\text{Np})$	390,61 (5)	0,00000573 (8)					
$\gamma_{32,9}(\text{Np})$	398,64 (15)						
$\gamma_{29,7}(\text{Np})$	400,78 (10)	0,00000018 (5)	[M1 + E2]	0,22 (18)	0,054 (23)	0,013 (6)	0,29 (21)
$\gamma_{30,7}(\text{Np})$	406,35 (15)	0,00000175 (28)	[M1 + E2]	0,21 (17)	0,052 (22)	0,013 (5)	0,28 (20)
$\gamma_{(-1,17)}(\text{Np})$	411,27	0,00000018 (4)					
$\gamma_{22,1}(\text{Np})$	419,33 (4)	0,000036 (5)	[M1 + E2]	0,19 (16)	0,047 (21)	0,012 (5)	0,26 (18)
$\gamma_{23,1}(\text{Np})$	426,47 (4)	0,000039 (9)	[M1 + E2]	0,19 (15)	0,045 (20)	0,011 (5)	0,25 (18)
$\gamma_{(-1,18)}(\text{Np})$	429,9 (1)	0,00000109 (5)					
$\gamma_{(-1,19)}(\text{Np})$	440,63	0,00000056 (3)					
$\gamma_{(-1,20)}(\text{Np})$	442,81 (7)	0,00000331 (7)					
$\gamma_{35,13}(\text{Np})$	446,15 (6)	0,00000011 (2)					
$\gamma_{22,0}(\text{Np})$	452,6 (2)	0,00000251 (7)	[E2]	0,0357 (7)	0,0205 (4)	0,00543 (11)	0,0635 (13)
$\gamma_{26,2}(\text{Np})$	454,66 (8)	0,0000129 (2)	[M1]	0,279 (6)	0,0542 (11)	0,0131 (3)	0,351 (7)
$\gamma_{23,0}(\text{Np})$	459,68 (10)	0,0000043 (5)	[M1 + E2]	0,15 (12)	0,036 (17)	0,009 (4)	0,20 (14)
$\gamma_{29,5}(\text{Np})$	462,34 (8)	0,0000012	[M1 + E2]	0,15 (12)	0,035 (17)	0,009 (4)	0,20 (14)
$\gamma_{30,5}(\text{Np})$	468,12 (15)	0,0000032 (4)	[M1 + E2]	0,15 (12)	0,034 (16)	0,008 (4)	0,19 (14)
$\gamma_{(-1,21)}(\text{Np})$	486,05	0,00000105 (6)					
$\gamma_{28,4}(\text{Np})$	487,13 (4)	0,00000080 (6)	[M1]	0,232 (6)	0,0449 (9)	0,0109 (2)	0,291 (6)
$\gamma_{(-1,22)}(\text{Np})$	494,39	0,00000010 (2)					
$\gamma_{(-1,23)}(\text{Np})$	501,39	0,00000014 (2)					
$\gamma_{27,1}(\text{Np})$	512,5 (3)	0,00000210 (41)	[E1]	0,0107 (2)	0,00195 (4)	0,00047 (1)	0,0133 (3)
$\gamma_{26,0}(\text{Np})$	514,0 (5)	0,0000039 (2)	[E1]	0,0106 (2)	0,00194 (4)	0,00047 (1)	0,0132
$\gamma_{30,3}(\text{Np})$	522,06 (15)	0,00000113 (11)	[M1 + E2]	0,11 (9)	0,025 (13)	0,006 (3)	0,14 (10)
$\gamma_{(-1,24)}(\text{Np})$	525,14	0,00000016 (3)					
$\gamma_{38,13}(\text{Np})$	529,17 (20)	0,00000072 (5)	[E2]	0,0269 (5)	0,0124 (2)	0,00324 (6)	0,0437 (9)
$\gamma_{(-1,25)}(\text{Np})$	532,44	0,00000008 (2)					
$\gamma_{27,0}(\text{Np})$	546,12 (6)	0,00000025 (3)	[E1]	0,00947 (19)	0,00171 (3)	0,00041 (1)	0,0117 (2)
$\gamma_{(-1,26)}(\text{Np})$	548,15	0,00000005 (2)					
$\gamma_{(-1,27)}(\text{Np})$	555,25	0,00000009 (2)					
$\gamma_{33,6}(\text{Np})$	563,46 (2)	0,000000460 (21)	[E2]	0,0241 (5)	0,0102 (2)	0,00266 (5)	0,0378 (8)
$\gamma_{36,8}(\text{Np})$	573,94 (20)	0,00000142 (12)	[M1 + E2]	0,09 (7)	0,019 (10)	0,0027 (16)	0,11 (8)
$\gamma_{(-1,28)}(\text{Np})$	582,89	0,00000101 (6)					
$\gamma_{31,2}(\text{Np})$	586,59 (20)	0,00000128 (5)	[E2]	0,0224 (4)	0,00903 (18)	0,00235 (5)	0,0346 (7)
$\gamma_{28,0}(\text{Np})$	590,09 (4)	0,00000283 (6)	[E1]	0,00818 (16)	0,00147 (3)	0,000351 (7)	0,0101 (2)
$\gamma_{34,6}(\text{Np})$	597,19 (2)	0,0000080 (5)	[M1 + E2]	0,08 (6)	0,017 (9)	0,0042 (20)	0,10 (7)
$\gamma_{(-1,29)}(\text{Np})$	600,26	0,00000022 (3)					
$\gamma_{33,4}(\text{Np})$	619,01 (2)	0,000065 (5)	[M1 + E2]	0,07 (5)	0,016 (8)	0,0037 (10)	0,09 (7)
$\gamma_{38,8}(\text{Np})$	627,18 (20)	0,00000056 (4)	[M1 + E2]	0,07 (5)	0,015 (8)	0,0037 (10)	0,09 (6)
$\gamma_{32,1}(\text{Np})$	632,93 (15)	0,00000124 (5)					
$\gamma_{(-1,30)}(\text{Np})$	636,9	0,00000021 (3)					
$\gamma_{36,6}(\text{Np})$	641,32 (4)	0,0000076 (5)	[M1 + E2]	0,06 (5)	0,014 (8)	0,0035 (10)	0,08 (6)
$\gamma_{34,4}(\text{Np})$	652,73 (2)	0,0000410 (25)	[M1 + E2]	0,06 (5)	0,013 (7)	0,0033 (10)	0,08 (6)
$\gamma_{33,2}(\text{Np})$	662,40 (2)	0,00045 (10)	(E0+M1+E2)	0,18 (4)	0,045 (15)		0,23 (5)
$\gamma_{32,0}(\text{Np})$	666,2 (2)	0,00000095 (7)					
$\gamma_{36,5}(\text{Np})$	669,83 (2)	0,00000051 (7)	[E1]	0,00647 (13)	0,00114 (2)	0,00073 (1)	0,0080 (2)
$\gamma_{37,5}(\text{Np})$	675,78 (13)	0,00000091 (7)	[E2,M1]	0,06 (4)	0,012 (7)	0,0030 (15)	0,07 (5)
$\gamma_{34,3}(\text{Np})$	679,79 (2)	0,00000334 (8)	[E1]	0,00630 (13)	0,00111 (2)	0,000265 (5)	0,00776 (16)
$\gamma_{33,1}(\text{Np})$	688,72 (4)	0,0000325 (6)	[E1]	0,00615 (12)	0,00108 (2)	0,000259 (5)	0,00758 (16)
$\gamma_{(-1,31)}(\text{Np})$	693,46	0,00000354 (7)					
$\gamma_{34,2}(\text{Np})$	696,14 (2)	0,0000055 (3)	[M1 + E2]	0,05 (4)	0,011 (6)	0,0028 (10)	0,07 (5)
$\gamma_{(-1,32)}(\text{Np})$	709,42 (5)	0,00000641 (18)					
$\gamma_{(-1,33)}(\text{Np})$	712,5	0,00000020 (3)					
$\gamma_{33,0}(\text{Np})$	721,96 (2)	0,000197 (5)	[E1]	0,0056 (1)	0,00099 (2)	0,00024 (1)	0,0070 (2)
$\gamma_{37,3}(\text{Np})$	729,72 (15)	0,00000151 (6)	[M1]	0,079 (2)	0,0151 (4)	0,0036 (1)	0,099 (2)

	Energy keV	$P_{\gamma+ce}$ × 100	Multipolarity	α_K	α_L	α_M	α_T
$\gamma_{(-1,34)}$ (Np)	731,44	0,00000046 (4)					
$\gamma_{(-1,35)}$ (Np)	736,68	0,00000128 (5)					
$\gamma_{35,1}$ (Np)	737,34 (5)	0,00000794 (8)					
$\gamma_{(-1,36)}$ (Np)	740,51	0,00000019 (3)					
$\gamma_{(-1,37)}$ (Np)	742,9 (3)	0,00000035					
$\gamma_{(-1,38)}$ (Np)	745,02	0,00000009 (2)					
$\gamma_{(-1,39)}$ (Np)	750,39	0,00000006 (2)					
$\gamma_{34,0}$ (Np)	755,68 (2)	0,00000789 (11)	[E1]	0,0052 (1)	0,00091 (1)	0,000217 (4)	0,0064 (1)
$\gamma_{(-1,40)}$ (Np)	759,5 (1)	0,00000181 (5)					
$\gamma_{(-1,41)}$ (Np)	763,31	0,00000023 (2)					
$\gamma_{36,1}$ (Np)	766,62 (4)	0,00000504 (6)	[E1]	0,00507 (10)	0,00088 (2)	0,000211 (4)	0,00623 (12)
$\gamma_{35,0}$ (Np)	770,57 (10)	0,00000481 (5)					
$\gamma_{37,1}$ (Np)	772,57 (12)	0,00000303 (5)	[M1]	0,0675 (14)	0,0129 (3)	0,00312 (6)	0,0847 (17)
$\gamma_{(-1,42)}$ (Np)	774,67	0,00000011 (2)					
$\gamma_{(-1,43)}$ (Np)	777,39	0,00000015 (2)					
$\gamma_{(-1,44)}$ (Np)	780,53	0,00000031 (2)					
$\gamma_{(-1,45)}$ (Np)	782,2 (5)	0,00000015					
$\gamma_{39,3}$ (Np)	786,00 (15)	0,00000062 (0)					
$\gamma_{(-1,46)}$ (Np)	789,0 (3)	0,00000042 (6)					
$\gamma_{(-1,47)}$ (Np)	792,6	0,00000003 (1)					
$\gamma_{(-1,48)}$ (Np)	794,92 (20)	0,00000094					
$\gamma_{39,2}$ (Np)	801,94 (20)	0,00000123 (7)					
$\gamma_{(-1,49)}$ (Np)	803,19	0,00000016 (3)					
$\gamma_{37,0}$ (Np)	805,77 (12)	0,00000033	[M1,E2]	0,037 (24)	0,008 (4)	0,0019 (10)	0,05 (3)
$\gamma_{(-1,50)}$ (Np)	811,9 (3)	0,00000063 (6)					
$\gamma_{(-1,51)}$ (Np)	819,33	0,00000043 (6)					
$\gamma_{(-1,52)}$ (Np)	822,21	0,00000024 (6)					
$\gamma_{39,1}$ (Np)	828,60 (12)	0,00000021 (4)					
$\gamma_{(-1,53)}$ (Np)	835,21	0,00000003 (1)					
$\gamma_{(-1,54)}$ (Np)	838,88	0,00000004 (1)					
$\gamma_{(-1,55)}$ (Np)	841,14	0,00000010 (3)					
$\gamma_{(-1,56)}$ (Np)	843,7	0,00000097 (8)					
$\gamma_{(-1,57)}$ (Np)	846,86	0,00000016 (3)					
$\gamma_{(-1,58)}$ (Np)	847,4 (5)	0,00000003					
$\gamma_{(-1,59)}$ (Np)	851,6 (10)	0,00000041 (6)					
$\gamma_{(-1,60)}$ (Np)	854,95	0,00000023 (4)					
$\gamma_{(-1,61)}$ (Np)	856,26	0,00000010 (3)					
$\gamma_{40,2}$ (Np)	861,34 (20)	0,00000008					
$\gamma_{39,0}$ (Np)	861,80 (12)	0,00000061 (6)					
$\gamma_{(-1,62)}$ (Np)	870,63	0,00000150 (3)					
$\gamma_{(-1,63)}$ (Np)	882	0,00000004 (1)					
$\gamma_{(-1,64)}$ (Np)	886,53	0,00000015 (3)					
$\gamma_{40,1}$ (Np)	887,68 (20)	0,00000033 (6)					
$\gamma_{(-1,65)}$ (Np)	890,38	0,00000032 (5)					
$\gamma_{(-1,66)}$ (Np)	894,47	0,00000003 (1)					
$\gamma_{(-1,67)}$ (Np)	898,17	0,00000006 (2)					
$\gamma_{(-1,68)}$ (Np)	902,61	0,00000033 (3)					
$\gamma_{(-1,69)}$ (Np)	909,95	0,00000005 (1)					
$\gamma_{(-1,70)}$ (Np)	912,4	0,00000028 (3)					
$\gamma_{40,0}$ (Np)	920,88 (20)	0,00000019 (3)					
$\gamma_{(-1,71)}$ (Np)	928,95	0,00000009 (2)					
$\gamma_{(-1,72)}$ (Np)	939,2	0,00000005 (1)					
$\gamma_{41,0}$ (Np)	946,06	0,00000010 (3)					
$\gamma_{(-1,73)}$ (Np)	952,72	0,00000003 (1)					
$\gamma_{(-1,74)}$ (Np)	955,91	0,00000060 (5)					
$\gamma_{42,0}$ (Np)	962,19	0,00000004 (1)					
$\gamma_{(-1,75)}$ (Np)	969,09	0,00000003 (1)					
$\gamma_{(-1,76)}$ (Np)	980,84	0,00000003 (1)					
$\gamma_{43,0}$ (Np)	1014,33	0,00000010 (2)					

3 Atomic Data

3.1 Np

ω_K	:	0,971	(4)
$\bar{\omega}_L$:	0,511	(20)
n_{KL}	:	0,791	(5)

3.1.1 X Radiations

	Energy keV	Relative probability
X _K		
K α_2	97,069	62,82
K α_1	101,059	100
K β_3	113,303	}
K β_1	114,234	}
K β_5''	114,912	}
		36,21
K β_2	117,463	}
K β_4	117,876	}
KO _{2,3}	118,429	}
		12,47
X _L		
L ℓ	11,89	
L α	13,76 – 13,944	
L η	15,876	
L β	16,13 – 17,79	
L γ	20,12 – 22,2	

3.1.2 Auger Electrons

	Energy keV	Relative probability
Auger K		
KLL	73,50 – 83,13	100
KLX	90,36 – 97,28	60,2
KXY	107,10 – 114,58	9,06
Auger L	6,04 – 13,52	55000000

4 α Emissions

	Energy keV	Probability $\times 100$
$\alpha_{0,36}$	4757,58 (13)	0,00004 (3)
$\alpha_{0,34}$	4800,99 (13)	0,000086
$\alpha_{0,33}$	4834,15 (13)	0,0007
$\alpha_{0,32}$	4888,98 (15)	
$\alpha_{0,30}$	4956,06 (15)	
$\alpha_{0,29}$	4961,63 (14)	
$\alpha_{0,28}$	4963,83 (13)	
$\alpha_{0,27}$	5007,07 (14)	0,0001
$\alpha_{0,25}$	5055,36 (13)	
$\alpha_{0,24}$	5065,97 (15)	0,00011
$\alpha_{0,23}$	5092,06 (13)	$\sim 0,0004$
$\alpha_{0,22}$	5099,08 (13)	$\sim 0,0004$
$\alpha_{0,21}$	5106,72 (16)	
$\alpha_{0,20}$	5117,21 (13)	0,0004
$\alpha_{0,19}$	5132,8 (2)	
$\alpha_{0,18}$	5155,12 (13)	0,0007
$\alpha_{0,17}$	5179,35 (13)	0,0003
$\alpha_{0,16}$	5181,63 (13)	0,0009
$\alpha_{0,15}$	5190,17 (23)	0,0006
$\alpha_{0,14}$	5217,26 (13)	
$\alpha_{0,13}$	5225,08 (13)	0,0013
$\alpha_{0,12}$	5232,6 (3)	
$\alpha_{0,11}$	5244,13 (13)	0,0022 (3)
$\alpha_{0,9}$	5280,99 (13)	0,0005
$\alpha_{0,8}$	5321,87 (13)	0,014 (3)
$\alpha_{0,6}$	5388,25 (13)	1,66 (3)
$\alpha_{0,5}$	5416,28 (13)	$\sim 0,01$
$\alpha_{0,4}$	5442,86 (12)	13,23 (10)
$\alpha_{0,3}$	5469,47 (12)	$< 0,04$
$\alpha_{0,2}$	5485,56 (12)	84,45 (10)
$\alpha_{0,1}$	5511,46 (12)	0,23 (1)
$\alpha_{0,0}$	5544,11 (12)	0,38 (1)

5 Electron Emissions

		Energy keV	Electrons per 100 disint.
e _{AL}	(Np)	6,04 - 13,52	33,4 (17)
e _{AK}	(Np)		0,000114 (16)
	KLL	73,50 - 83,13	}
	KLX	90,36 - 97,28	}
	KXY	107,10 - 114,58	}
ec _{2,1} L	(Np)	3,92 - 8,73	14 (5)
ec _{1,0} L	(Np)	10,769 - 15,590	15,9 (21)
ec _{3,1} L	(Np)	20,28 - 25,09	0,31 (7)
ec _{2,1} M	(Np)	20,606 - 22,681	3,7 (5)
ec _{4,2} L	(Np)	20,99 - 25,81	8,8 (12)
ec _{1,0} M	(Np)	27,46 - 29,53	4,0 (6)
ec _{1,0} N	(Np)	31,70 - 32,79	1,08 (16)
ec _{6,4} L	(Np)	33,13 - 37,95	0,87 (11)
ec _{3,1} M	(Np)	36,97 - 39,04	0,076 (17)
ec _{2,0} L	(Np)	37,114 - 41,930	30,2 (22)
ec _{4,2} M	(Np)	37,68 - 39,76	2,3 (4)
ec _{4,2} N	(Np)	41,92 - 43,02	0,65 (9)
ec _{6,4} M	(Np)	49,82 - 51,90	0,228 (30)
ec _{2,0} M	(Np)	53,802 - 55,877	8,12 (25)
ec _{6,4} N	(Np)	54,06 - 55,16	0,062 (8)
ec _{6,2} L	(Np)	76,54 - 81,36	0,225 (5)
ec _{6,2} M	(Np)	93,23 - 95,31	0,0625 (16)

6 Photon Emissions

6.1 X-Ray Emissions

		Energy keV	Photons per 100 disint.
XL	(Np)	11,89 — 22,2	37,66 (17)
XK α_2	(Np)	97,069	0,001134 (30) } K α
XK α_1	(Np)	101,059	0,00181 (5) }
XK β_3	(Np)	113,303	}
XK β_1	(Np)	114,234	}
XK β_5''	(Np)	114,912	}
XK β_2	(Np)	117,463	}
XK β_4	(Np)	117,876	}
XKO _{2,3}	(Np)	118,429	}
			0,000658 (21) K' β_1
			0,000226 (8) K' β_2

6.2 Gamma Emissions

	Energy keV	Photons per 100 disint.
$\gamma_{2,1}(\text{Np})$	26,3446 (2)	2,31 (8)
$\gamma_{(-1,1)}(\text{Np})$	32,183	0,0174 (4)
$\gamma_{1,0}(\text{Np})$	33,1963 (3)	0,1215 (28)
$\gamma_{3,1}(\text{Np})$	42,704 (5)	0,0055 (11)
$\gamma_{4,2}(\text{Np})$	43,420 (3)	0,0669 (29)
$\gamma_{14,10}(\text{Np})$	51,01 (3)	0,000026 (12)
$\gamma_{6,4}(\text{Np})$	55,56 (2)	0,0181 (18)
$\gamma_{(-1,2)}(\text{Np})$	57,85 (5)	0,0052 (15)
$\gamma_{2,0}(\text{Np})$	59,5409 (1)	35,92 (17)
$\gamma_{14,9}(\text{Np})$	64,83 (2)	0,00014 (2)
$\gamma_{8,6}(\text{Np})$	67,50 (2)	0,00042 (10)
$\gamma_{4,1}(\text{Np})$	69,76 (3)	0,0029 (4)
$\gamma_{3,0}(\text{Np})$	75,90 (1)	0,0006
$\gamma_{5,1}(\text{Np})$	96,79 (3)	0,000047 (16)
$\gamma_{6,2}(\text{Np})$	98,97 (2)	0,0203 (4)
$\gamma_{4,0}(\text{Np})$	102,98 (2)	0,0195 (4)
$\gamma_{(-1,3)}(\text{Np})$	106,42 (5)	0,000015
$\gamma_{20,13}(\text{Np})$	109,70 (7)	0,0000049
$\gamma_{21,13}(\text{Np})$	120,36 (8)	0,0000045
$\gamma_{8,4}(\text{Np})$	123,05 (1)	0,00100 (4)
$\gamma_{6,1}(\text{Np})$	125,30 (2)	0,0041 (2)
$\gamma_{29,22}(\text{Np})$	139,44 (8)	0,0000053 (11)
$\gamma_{11,6}(\text{Np})$	146,55 (3)	0,00046 (1)
$\gamma_{8,3}(\text{Np})$	150,04 (3)	0,000073 (5)
$\gamma_{26,15}(\text{Np})$	154,27 (20)	0,0000005
$\gamma_{29,20}(\text{Np})$	159,26 (20)	0,0000014 (5)
$\gamma_{24,13}(\text{Np})$	161,54 (10)	0,0000015
$\gamma_{9,4}(\text{Np})$	164,61 (2)	0,000066 (3)
$\gamma_{13,6}(\text{Np})$	165,81 (6)	0,000023 (1)
$\gamma_{18,8}(\text{Np})$	169,56 (3)	0,00017 (1)
$\gamma_{11,5}(\text{Np})$	175,07 (4)	0,000018 (3)
$\gamma_{(-1,7)}(\text{Np})$	190,4	0,0000022 (5)
$\gamma_{25,11}(\text{Np})$	191,96 (4)	0,0000215 (10)
$\gamma_{29,18}(\text{Np})$	196,76 (8)	0,00000049
$\gamma_{(-1,8)}(\text{Np})$	201,70 (14)	0,0000008
$\gamma_{18,7}(\text{Np})$	204,06 (6)	0,00000206 (6)
$\gamma_{9,2}(\text{Np})$	208,005 (23)	0,000786 (9)
$\gamma_{13,4}(\text{Np})$	221,46 (3)	0,0000434 (8)
$\gamma_{26,10}(\text{Np})$	232,81 (5)	0,00000482 (9)
$\gamma_{9,1}(\text{Np})$	234,40 (4)	0,00000087 (8)
$\gamma_{26,9}(\text{Np})$	246,73 (10)	0,00000244 (7)
$\gamma_{13,3}(\text{Np})$	248,52 (3)	0,00000146 (3)
$\gamma_{22,7}(\text{Np})$	261,00 (7)	0,00000129 (6)
$\gamma_{13,2}(\text{Np})$	264,88 (3)	0,00000943 (12)
$\gamma_{9,0}(\text{Np})$	267,54 (4)	0,0000268 (6)

	Energy keV	Photons per 100 disint.
$\gamma_{(-1,9)}$ (Np)	270,63 (15)	0,0000005 (2)
$\gamma_{(-1,10)}$ (Np)	271,54	0,00000144 (5)
$\gamma_{20,6}$ (Np)	275,77 (8)	0,00000632 (10)
$\gamma_{27,9}$ (Np)	278,04 (15)	0,00000115 (3)
$\gamma_{13,1}$ (Np)	291,3 (2)	0,00000305 (8)
$\gamma_{16,3}$ (Np)	292,77 (6)	0,0000142 (3)
$\gamma_{20,5}$ (Np)	304,21 (20)	0,00000093 (2)
$\gamma_{16,2}$ (Np)	309,1 (3)	0,0000020 (3)
$\gamma_{22,5}$ (Np)	322,56 (3)	0,000151 (4)
$\gamma_{(-1,11)}$ (Np)	324,69	0,0000018 (3)
$\gamma_{(-1,12)}$ (Np)	329,69	0,0000011 (2)
$\gamma_{14,0}$ (Np)	332,35 (3)	0,000150 (4)
$\gamma_{16,1}$ (Np)	335,37 (3)	0,000496 (7)
$\gamma_{17,1}$ (Np)	337,7 (2)	0,00000488 (9)
$\gamma_{(-1,13)}$ (Np)	350,71	0,00000139 (5)
$\gamma_{20,3}$ (Np)	358,25 (20)	0,00000129 (5)
$\gamma_{16,0}$ (Np)	368,62 (3)	0,000214 (5)
$\gamma_{17,0}$ (Np)	370,94 (3)	0,0000520 (8)
$\gamma_{(-1,14)}$ (Np)	374,83	0,00000313 (6)
$\gamma_{22,3}$ (Np)	376,65 (3)	0,000137 (3)
$\gamma_{23,3}$ (Np)	383,81 (3)	0,0000281 (6)
$\gamma_{(-1,15)}$ (Np)	389,0 (3)	0,00000049
$\gamma_{(-1,16)}$ (Np)	390,61 (5)	0,00000573 (10)
$\gamma_{29,7}$ (Np)	400,78 (10)	0,00000014 (3)
$\gamma_{30,7}$ (Np)	406,35 (15)	0,00000137 (5)
$\gamma_{(-1,17)}$ (Np)	411,27	0,00000018 (4)
$\gamma_{22,1}$ (Np)	419,33 (4)	0,0000284 (4)
$\gamma_{23,1}$ (Np)	426,47 (4)	0,000031 (6)
$\gamma_{(-1,18)}$ (Np)	429,9 (1)	0,00000109 (5)
$\gamma_{(-1,19)}$ (Np)	440,63	0,00000056 (3)
$\gamma_{(-1,20)}$ (Np)	442,81 (7)	0,00000331 (8)
$\gamma_{35,13}$ (Np)	446,15 (6)	0,00000011 (2)
$\gamma_{22,0}$ (Np)	452,6 (2)	0,00000236 (7)
$\gamma_{26,2}$ (Np)	454,66 (8)	0,00000953 (12)
$\gamma_{23,0}$ (Np)	459,68 (10)	0,00000355 (7)
$\gamma_{29,5}$ (Np)	462,34 (8)	0,000001
$\gamma_{30,5}$ (Np)	468,12 (15)	0,00000269 (6)
$\gamma_{(-1,21)}$ (Np)	486,05	0,00000105 (6)
$\gamma_{28,4}$ (Np)	487,13 (4)	0,00000062 (5)
$\gamma_{(-1,22)}$ (Np)	494,39	0,00000010 (2)
$\gamma_{(-1,23)}$ (Np)	501,39	0,00000014 (2)
$\gamma_{27,1}$ (Np)	512,5 (3)	0,0000021 (4)
$\gamma_{26,0}$ (Np)	514,0 (5)	0,0000038 (2)
$\gamma_{30,3}$ (Np)	522,06 (15)	0,00000099 (5)
$\gamma_{(-1,24)}$ (Np)	525,14	0,00000016 (3)
$\gamma_{38,13}$ (Np)	529,17 (20)	0,00000069 (5)
$\gamma_{(-1,25)}$ (Np)	532,44	0,00000008 (2)

	Energy keV	Photons per 100 disint.
$\gamma_{27,0}(\text{Np})$	546,12 (6)	0,00000025 (3)
$\gamma_{(-1,26)}(\text{Np})$	548,15	0,00000005 (2)
$\gamma_{(-1,27)}(\text{Np})$	555,25	0,00000009 (2)
$\gamma_{33,6}(\text{Np})$	563,46 (2)	0,00000044 (2)
$\gamma_{36,8}(\text{Np})$	573,94 (20)	0,00000128 (5)
$\gamma_{(-1,28)}(\text{Np})$	582,89	0,00000101 (6)
$\gamma_{31,2}(\text{Np})$	586,59 (20)	0,00000124 (5)
$\gamma_{28,0}(\text{Np})$	590,09 (4)	0,00000280 (6)
$\gamma_{34,6}(\text{Np})$	597,19 (2)	0,00000729 (11)
$\gamma_{(-1,29)}(\text{Np})$	600,26	0,00000022 (3)
$\gamma_{33,4}(\text{Np})$	619,01 (2)	0,000060 (2)
$\gamma_{38,8}(\text{Np})$	627,18 (20)	0,00000051 (2)
$\gamma_{32,1}(\text{Np})$	632,93 (15)	0,00000124 (5)
$\gamma_{(-1,30)}(\text{Np})$	636,9	0,00000021 (3)
$\gamma_{36,6}(\text{Np})$	641,32 (4)	0,00000704 (10)
$\gamma_{34,4}(\text{Np})$	652,73 (2)	0,0000376 (9)
$\gamma_{33,2}(\text{Np})$	662,40 (2)	0,000367 (6)
$\gamma_{32,0}(\text{Np})$	666,2 (2)	0,00000095 (7)
$\gamma_{36,5}(\text{Np})$	669,83 (2)	0,00000051 (7)
$\gamma_{37,5}(\text{Np})$	675,78 (13)	0,00000085 (5)
$\gamma_{34,3}(\text{Np})$	679,79 (2)	0,00000331 (8)
$\gamma_{33,1}(\text{Np})$	688,72 (4)	0,0000323 (6)
$\gamma_{(-1,31)}(\text{Np})$	693,46	0,00000354 (8)
$\gamma_{34,2}(\text{Np})$	696,14 (2)	0,00000517 (8)
$\gamma_{(-1,32)}(\text{Np})$	709,42 (5)	0,00000641 (19)
$\gamma_{(-1,33)}(\text{Np})$	712,5	0,00000020 (3)
$\gamma_{33,0}(\text{Np})$	721,96 (2)	0,000196 (5)
$\gamma_{37,3}(\text{Np})$	729,72 (15)	0,00000137 (5)
$\gamma_{(-1,34)}(\text{Np})$	731,44	0,00000046 (4)
$\gamma_{(-1,35)}(\text{Np})$	736,68	0,00000128 (5)
$\gamma_{35,1}(\text{Np})$	737,34 (5)	0,00000794 (11)
$\gamma_{(-1,36)}(\text{Np})$	740,51	0,00000019 (3)
$\gamma_{(-1,37)}(\text{Np})$	742,9 (3)	0,00000035
$\gamma_{(-1,38)}(\text{Np})$	745,02	0,00000009 (2)
$\gamma_{(-1,39)}(\text{Np})$	750,39	0,00000006 (2)
$\gamma_{34,0}(\text{Np})$	755,68 (2)	0,00000784 (11)
$\gamma_{(-1,40)}(\text{Np})$	759,5 (1)	0,00000181 (5)
$\gamma_{(-1,41)}(\text{Np})$	763,31	0,00000023 (2)
$\gamma_{36,1}(\text{Np})$	766,62 (4)	0,00000501 (6)
$\gamma_{35,0}(\text{Np})$	770,57 (10)	0,00000481 (7)
$\gamma_{37,1}(\text{Np})$	772,57 (12)	0,00000279 (4)
$\gamma_{(-1,42)}(\text{Np})$	774,67	0,00000011 (2)
$\gamma_{(-1,43)}(\text{Np})$	777,39	0,00000015 (2)
$\gamma_{(-1,44)}(\text{Np})$	780,53	0,00000031 (2)
$\gamma_{(-1,45)}(\text{Np})$	782,2 (5)	0,00000015
$\gamma_{39,3}(\text{Np})$	786,00 (15)	0,00000062
$\gamma_{(-1,46)}(\text{Np})$	789,0 (3)	0,00000042 (6)

	Energy keV	Photons per 100 disint.
$\gamma_{(-1,47)}(\text{Np})$	792,6	0,00000003 (1)
$\gamma_{(-1,48)}(\text{Np})$	794,92 (20)	0,00000094
$\gamma_{39,2}(\text{Np})$	801,94 (20)	0,00000123 (7)
$\gamma_{(-1,49)}(\text{Np})$	803,19	0,00000016 (3)
$\gamma_{37,0}(\text{Np})$	805,77 (12)	0,00000031
$\gamma_{(-1,50)}(\text{Np})$	811,9 (3)	0,00000063 (6)
$\gamma_{(-1,51)}(\text{Np})$	819,33	0,00000043 (6)
$\gamma_{(-1,52)}(\text{Np})$	822,21	0,00000024 (6)
$\gamma_{39,1}(\text{Np})$	828,60 (12)	0,00000021 (4)
$\gamma_{(-1,53)}(\text{Np})$	835,21	0,00000003 (1)
$\gamma_{(-1,54)}(\text{Np})$	838,88	0,00000004 (1)
$\gamma_{(-1,55)}(\text{Np})$	841,14	0,00000010 (3)
$\gamma_{(-1,56)}(\text{Np})$	843,7	0,00000097 (8)
$\gamma_{(-1,57)}(\text{Np})$	846,86	0,00000016 (3)
$\gamma_{(-1,58)}(\text{Np})$	847,4 (5)	0,00000027 (3)
$\gamma_{(-1,59)}(\text{Np})$	851,6 (10)	0,00000041 (6)
$\gamma_{(-1,60)}(\text{Np})$	854,95	0,00000023 (4)
$\gamma_{(-1,61)}(\text{Np})$	856,26	0,00000010 (3)
$\gamma_{40,2}(\text{Np})$	861,34 (20)	0,00000008 (3)
$\gamma_{39,0}(\text{Np})$	861,80 (12)	0,00000061 (6)
$\gamma_{(-1,62)}(\text{Np})$	870,63	0,00000150 (4)
$\gamma_{(-1,63)}(\text{Np})$	882	0,00000004 (1)
$\gamma_{(-1,64)}(\text{Np})$	886,53	0,00000015 (3)
$\gamma_{40,1}(\text{Np})$	887,68 (20)	0,00000033 (6)
$\gamma_{(-1,65)}(\text{Np})$	890,38	0,00000032 (5)
$\gamma_{(-1,66)}(\text{Np})$	894,47	0,00000003 (1)
$\gamma_{(-1,67)}(\text{Np})$	898,17	0,00000006 (2)
$\gamma_{(-1,68)}(\text{Np})$	902,61	0,00000033 (3)
$\gamma_{(-1,69)}(\text{Np})$	909,95	0,00000005 (1)
$\gamma_{(-1,70)}(\text{Np})$	912,4	0,00000028 (3)
$\gamma_{40,0}(\text{Np})$	920,88 (20)	0,00000019 (3)
$\gamma_{(-1,71)}(\text{Np})$	928,95	0,00000009 (2)
$\gamma_{(-1,72)}(\text{Np})$	939,2	0,00000005 (1)
$\gamma_{41,0}(\text{Np})$	946,06	0,00000010 (2)
$\gamma_{(-1,73)}(\text{Np})$	952,72	0,00000003 (1)
$\gamma_{(-1,74)}(\text{Np})$	955,91	0,00000060 (5)
$\gamma_{42,0}(\text{Np})$	962,19	0,00000004 (1)
$\gamma_{(-1,75)}(\text{Np})$	969,09	0,00000003 (1)
$\gamma_{(-1,76)}(\text{Np})$	980,84	0,00000003 (1)
$\gamma_{43,0}(\text{Np})$	1014,33	0,00000010 (2)

7 Main Production Modes

Pu – 241(β^-)Am – 241

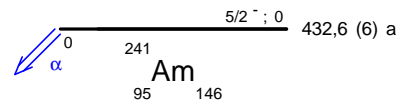
8 References

- J. K. BELING, J. O. NEWTON, B. ROSE. Phys. Rev. 86 (1952) 797
(gamma-ray emission probabilities.)
- J. F. TURNER. Phil. Mag. 46 (1955) 687
(gamma-ray emission probabilities.)
- H. JAFFE, T. O. PASSELL, C. I. BROWNE, I. PERLMAN. Phys. Rev. 97 (1955) 142
(gamma-ray emission probabilities.)
- R. B. DAY. Phys. Rev. 97 (1955) 689
(gamma-ray emission probabilities.)
- J. M. HOLLANDER, W. G. SMITH, J. O. RASMUSSEN. Phys. Rev. 102 (1956) 1372
(gamma-ray emission probabilities.)
- L. L. GOLDIN, G. I. NOVIKOVA, E. F. TRETAKOV. Conf. Acad. Sci. USSR Moscow (1956) 226
(energies of alpha-particles, alpha-particle emission probabilities.)
- S. ROSENBLUM, M. VALADARES, J. MILSTED. J. Phys. Radium 18 (1957) 609
(energies of alpha-particles.)
- L. B. MAGNUSSON. Phys. Rev. 107 (1957) 161
(gamma-ray energies and emission probabilities.)
- P. S. SAMOILOV. Columbia Tech. Transl. (Izv. Akad. Nauk SSSR, ser. fiz. 23 (1959) 1416) 23 (1960) 1401
(gamma-ray energy, gamma transition probabilities and multipolarities.)
- F. ASARO, F. S. STEPHENS, J. M. HOLLANDER, I. PERLMAN. Phys. Rev. 117 (1960) 494
(anomalous electric dipole gamma-ray transitions.)
- C. F. LEANG. Comp. Rend. Acad. Sci. (Paris) 255 (1962) 3155
(energies of alpha-particles.)
- J. L. WOLFSON, J. H. PARK. Can. J. Phys. (also Erratum Can. J. Phys. 48(1970)2782) 42 (1964) 1387
(gamma-ray energies and multipolarities.)
- S. A. BARANOV, V. M. KULAKOV, V. M. SHATINSKY. Nucl. Phys. 56 (1964) 252
(alpha-particle energies and emission probabilities.)
- W. MICHAELIS. Z. Phys. 186 (1965) 42
(alpha particle energies and emission probabilities.)
- G. BERTOLINI, F. CAPPELLANI, G. RESTELLI. Nucl. Instrum. Methods 32 (1965) 86
(gamma-ray emission probabilities.)
- L. D. MCISAAC. Report IDO-17052 (1965) 31
(gamma-ray emission probabilities.)
- W. YAMAZAKI, J. M. HOLLANDER. Nucl. Phys. 84 (1966) 505
(internal conversion probabilities.)
- C. M. LEDERER, J. K. POGGENBURG, F. ASARO, J. O. RASMUSSEN, I. PERLMAN. Nucl. Phys. 84 (1966) 481
(internal conversion coefficients.)
- H. -C. PAULI, K. ALDER. Z. Physik 202 (1967) 255
(anomalous electric dipole gamma-ray transitions.)
- C. GUNTHER, D. R. PARSIGNAULT. Nucl. Phys. A104 (1967) 588
(XK-ray emission probabilities.)
- C. BRIANCON, M. VALADARES, R. J. WALLEN. Comp. Rend. 265B (1967) 1496
(gamma-ray emission probabilities.)
- F. L. OETTING, S. R. GUNN. J. Inorg. Nucl. Chem. 29 (1967) 2659
(half-life.)
- L. N. KONDRATEV, E. F. TRETAKOV. Bull. Acad. Sci. URSS, Phys. Ser. 30 (1967) 393
(internal conversion probabilities.)
- R. E. STONE, E. K. HULET. J. Inorg. Nucl. Chem. 30 (1968) 2003
(half-life.)
- R. W. JEWELL, W. JOHN, R. MASSEY, B. G. SAUNDERS. Nucl. Instrum. Methods 62 (1968) 68
(gamma-ray energies.)
- L. C. BROWN, R. C. PROPST. J. Inorg. Nucl. Chem. 30 (1968) 2591
(half-life.)
- S. A. BARANOV, V. M. KULAKOV, V. M. SHATINSKII. Sov. J. Nucl. Phys. 7 (1968) 442.
(energies of alpha-particles.)
- R. KAMOUN, R. BALLINI, S. BERGSTROM-ROHLIN, J. -M. KUCHLY, P. SIFFERT. Comp. Rend. Acad. Sci. (Paris) B266 (1968) 1241
(energies of alpha-particles.)

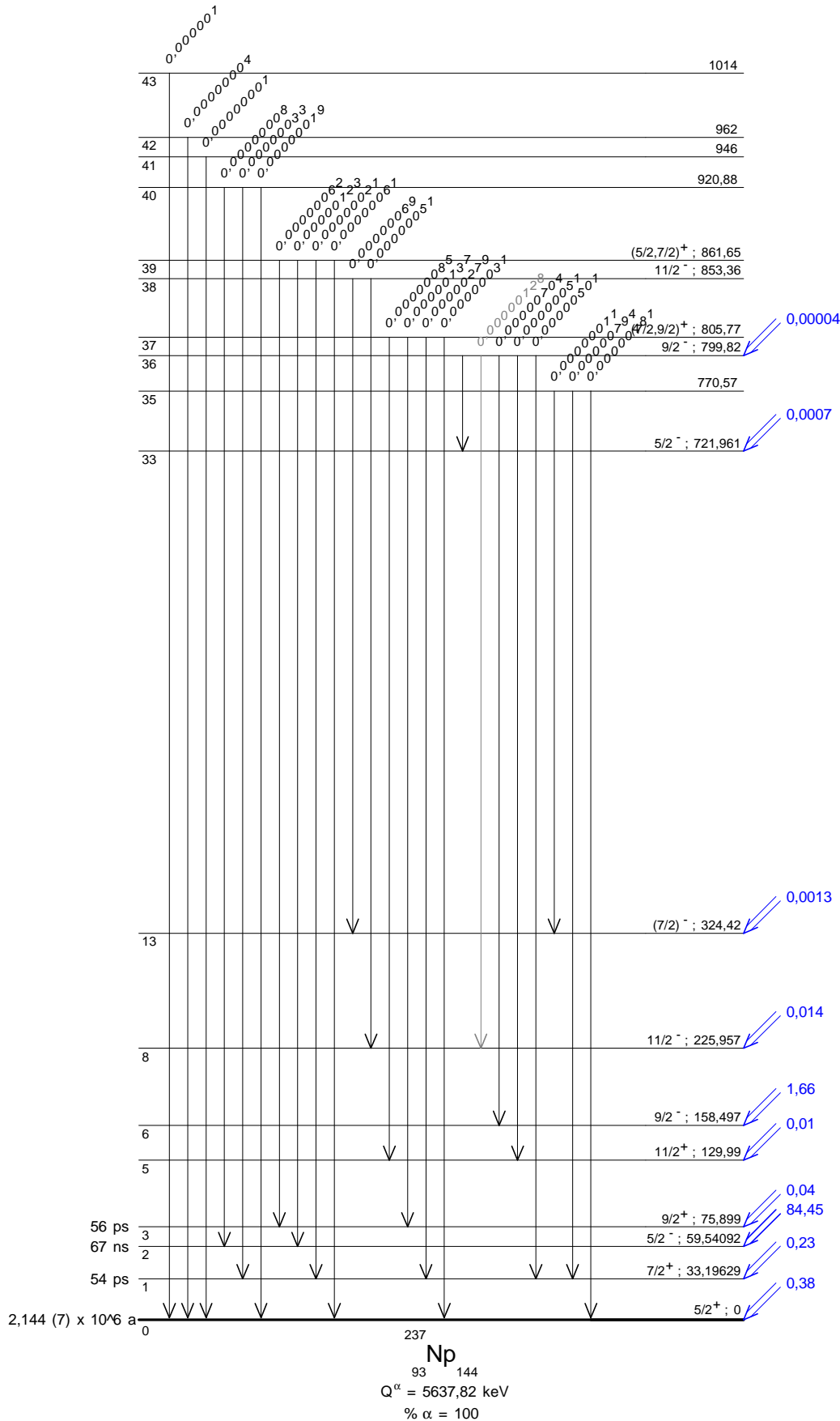
- A. PEGHAIRE. Nucl. Instrum. Methods 75 (1969) 66
(gamma-ray emission probabilities.)
- G. C. NELSON, B. G. SAUNDERS. Nucl. Instrum. Methods 84 (1970) 90
(gamma-ray energies.)
- V. N. GRIGOREV, A. P. FERESIN. Sov. J. Nucl. Phys. 12 (1970) 361
(anomalous electric dipole gamma-ray transitions.)
- J. E. CLINE. IN-1448 Rev. (1971) (1971)
(gamma-ray emission probabilities.)
- R. L. WATSON, T. K. LI. Nucl. Phys. A178 (1971) 201
(LX-ray emission probabilities.)
- B. GRENNBERG, A. RYTZ. Métrologie 7 (1971) 65
(energies of alpha-particle.)
- E. KARTTUNEN, H. U. FREUND, R. W. FINK. Phys. Rev. A4 (1971) 1695
(MX-ray emission probability.)
- R. J. GEHRKE, R. A. LOKKEN. Nucl. Instrum. Methods 97 (1971) 219
(XL- and gamma -ray emission probabilities.)
- J. JOVE, R. ROBERT. Radiochem. Radioanal. Letters 10 (1972) 139
(half-life.)
- R. L. HEATH. Report ANCR 1000 (1974) 2
(gamma - ray energies and emission probabilities.)
- W. J. GALLAGHER, S. J. CIPOLLA. Nucl. Instrum. Methods 122 (1974) 405
(LX- ray emission probabilities.)
- J. L. CAMPBELL, L. A. MCNELLES. Nucl. Instrum. Methods 117 (1974) 519
(LX- and gamma - ray emission probabilities.)
- W. W. STROHM, K. C. JORDAN. Trans. Am. Nucl. Soc. 18 (1974) 185
(half-life.)
- V. G. POLYUKHOV, G. A. TIMOFEEV, P. A. PRIVALOVA, P. F. BAKLANOVA. Soviet J. At. Energy 36 (1974) 402
(half-life.)
- H. RAMTHUN, W. MULLER. Int. J. Appl. Radiat. Isotop. 26 (1975) 589
(half-life.)
- J. LEGRAND, J. P. PEROLAT, C. BAC, J. GORRY. Int. J. Appl. Radiat. Isotop. 26 (1975) 179
(gamma - ray emission probabilities.)
- J. PLCH, J. ZDERADICKA, L. KOKTA. Czech. J. Phys. 26B (1976) 1344
(gamma-ray emission probability.)
- R. GUNNINK, J. E. EVANS, A. L. PRINDLE. Report UCRL-52139 (1976)
(LX-, KX- and gamma-ray emission probabilities.)
- A. GENOUX-LUBAIN, G. ARDISSON. Radiochem. Radioanal. Letters 33 (1978) 59
(gamma-ray energies and emission probabilities.)
- V. V. OVECHKIN. Bull. Acad. Sci. URSS, Ser. Phys. 42(1) (1978) 82
(gamma-ray energies and emission probabilities.)
- A. GENOUX-LUBAIN, G. ARDISSON. Comp. Rend. Acad. Sci. (Paris) B287 (1978) 13
(Gamma-ray emission energies and intensities.)
- C. ARDISSON, A. GENOUX-LUBAIN, V. BARCI, G. ARDISSON. Radiochem. Radioanal. Letters 40 (1979) 207
(gamma-ray energies.)
- D. D. COHEN. Nucl. Instrum. Methods 178 (1980) 481
(LX-ray emission probabilities.)
- G. BARREAU, H. G. BORNER, T. VON EGIDY, R. W. HOFF. Z. Phys. A308 (1982) 209
(KX-ray energies.)
- K. DEBERTIN, W. PESSARA. Int. J. Appl. Radiat. Isotop. 34 (1983) 515
(gamma-ray emission probabilities.)
- J. M. R. HUTCHINSON, P. A. MULLEN. Int. J. Appl. Radiat. Isotop. 34 (1983) 543
(gamma-ray emission probabilities.)
- I. AHMAD, J. HINES, J. E. GINDLER. Phys. Rev. C27 (1983) 2239
(LX-, KX-ray energies and KX-, gamma-ray emission probabilities.)
- I. AHMAD. Nucl. Instrum. Methods 223 (1984) 319
(alpha-particle emission probabilities.)
- V. V. OVECHKIN, A. E. KHOKHLOV. Izv. Akad. Nauk SSSR, Ser. Fiz. 48 (1984) 1032
(gamma-ray energies and emission probabilities.)
- G. BORTELS, P. COLLAERS. Appl. Rad. Isotopes 38 (1987) 831
(alpha-particle emission probabilities.)

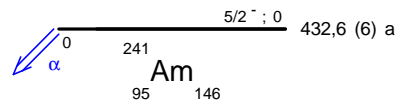
- B. DENECKE. Appl. Rad. Isotopes 38 (1987) 823
(gamma-ray emission probabilities.)
- V. P. CHECHEV, N. K. KUZMENKO, V. O. SERGEEV, K. P. ARTAMONOVA. Evaluated decay data, Energoatomizdat Ed. Moscow (1988)
(gamma-ray energies.)
- D. D. COHEN. Nucl. Instrum. Meth. Phys. Res. A267 (1988) 492
(LX-ray emission probabilities.)
- J. H. HUBBELL. Report NIST 89-4144 (1989)
(M fluorescence yield.)
- L. J. MARTIN, P.A.BURNS. Nucl. Instrum. Meth. Phys. Res. A312 (1992) 146
(gamma-ray emission probabilities.)
- C. J. BLAND, J. MOREL, E. ETCHEVERRY, M. C. LÉPY. Nucl. Instrum. Meth. Phys. Res. A312 (1992) 323
(LX-ray emission probabilities.)
- M. C. LÉPY, K. DEBERTIN, H. JANSSEN, U. SCHÖTZIG. Report PTB- Ra-31 (1993)
(L X-ray emission intensities.)
- I. AHMAD. Private communication, cited in 1994B112 (1993)
(alpha-particle emission probabilities.)
- M. C. LÉPY, B. DUCHEMIN, J. MOREL. Nucl. Instrum. Meth. Phys. Res. A353 (1994) 10
(LX-ray emission probabilities.)
- C. J. BLAND. Nucl. Instrum. Meth. Phys. Res. A339 (1994) 180
(alpha-particle emission probabilities.)
- Y. A. AKOVALI. Nucl. Data Sheets 74 (1995) 461
(Decay scheme.)
- C. C. BUENO, J. A. C.GONÇALVES, M. D. S. SANTOS. Nucl. Instrum. Meth. Phys. Res. A371 (1996) 460
(alpha-particle emission probabilities.)
- A. M. SANCHEZ, P. R. MONTERO, F. V. TOME. Nucl. Instrum. Meth. Phys. Res. A369 (1996) 593
(alpha-particle emission probabilities.)
- P. N. JOHNSON. Nucl. Instrum. Meth. Phys. Res. A369 (1996) 107
(evaluated gamma-ray emission probabilities and internal conversion coefficients.)
- A. ABDUL-HADI. J. Radional. Nucl. Chem 231 (1998) 147
(Gamma-ray emission energies and intensities.)
- A. KOVALIK, E. A. YAKUSHEV, V. M. GOROZHANKIN, M. NOVGORODOV, M. RYSAVY. J. Phys. (London) G24 (1998) 2247
(Conv. Elec. emission energies and intensities.)
- Y. JANG, J. NI. Nucl. Instrum. Meth. Phys. Res. A413 (1998) 239
(Alpha emission intensities.)
- E. SCHÖNFELD, G. RODLOFF. Report PTB 6.11-1, Braunschweig (1999)
(XK-ray energies and emission probabilities.)
- N. E. HOLDEN, D. C. HOFFMAN. Pure Appl. Chem. 72 (2000) 1525
(²⁴¹Am spontaneous fission half-life.)
- R. G. HELMER, C. VAN DER LEUN. Nucl. Instrum. Meth. Phys. Res. A450 (2000) 35
(gamma-ray energies.)
- E. SCHÖNFELD, U. SCHÖTZIG. Appl. Rad. Isotopes 54 (2001) 785
(calculated absolute emission probabilities of LX-rays.)
- M.M. BÉ, R. HELMER, V. CHISTÉ. J. Nucl. Sci. Tech., suppl.2 (2002) 481
(Saisinuc software.)
- G. AUDI, A. H. WAPSTRA, C. THIBAUT. Nucl. Phys. A729 (2003) 337
(Q value.)
- A. IWAHARA, M. A. L. DA SILVA, A. E. CARVALHO FILHO, E. M. DE OLIVEIRA BERNARDES, J. U. DELGADO. Appl. Rad. Isotopes 63 (2005) 107
(absolute emission probabilities of gamma-rays.)
- M. S. BASUNIA. Nucl. Data Sheets 107 (2006) 2323
(²⁴¹Am decay scheme, ²³⁷Np level energies and gamma-ray transition multipolarities.)
- M. C. LÉPY, J.PLAGNARD, L.FERREUX. Appl. Rad. Isotopes 66 (2008) 715
(absolute emission probabilities of LX-rays.)
- V. M. GOROZHANKIN, M. -M.BÉ. Appl. Rad. Isotopes 66 (2008) 722
(ICC for anomalous E1 gamma-ray transitions.)
- T. KIBEDI, W. BURROWS, M. B. TRZHASKOVSKAYA, P. M. DAVIDSON, C. W. NESTOR JR.. Nucl. Instrum. Methods Phys. Res. A589 (2008) 202
(Band-Raman ICC for gamma-ray transitions.)

- E. SCHÖNFELD, U. SCHÖTZIG. Appl. Rad. Isotopes 54 (2001) 785
(calculated absolute emission probabilities of LX-rays.)
- M.M. BÉ, R. HELMER, V. CHISTÉ. J. Nucl. Sci. Tech., suppl.2 (2002) 481
(Saisinuc software.)
- G. AUDI, A. H. WAPSTRA, C. THIBAUT. Nucl. Phys. A729 (2003) 337
(Q value.)
- A. IWAHARA, M. A. L. DA SILVA, A. E. CARVALHO FILHO, E. M. DE OLIVEIRA BERNARDES, J. U. DELGADO. Appl. Rad. Isotopes 63 (2005) 107
(absolute emission probabilities of gamma-rays.)
- M. S. BASUNIA. Nucl. Data Sheets 107 (2006) 2323
(^{241}Am decay scheme, ^{237}Np level energies and gamma-ray transition multiplicities.)
- M. C. LÉPY, J. PLAGNARD, L. FERREUX. Appl. Rad. Isotopes 66 (2008) 715
(absolute emission probabilities of LX-rays.)
- V. M. GOROZHANKIN, M. -M. BÉ. Appl. Rad. Isotopes 66 (2008) 722
(ICC for anomalous E1 gamma-ray transitions.)
- T. KIBEDI, W. BURROWS, M. B. TRZHASKOVSKAYA, P. M. DAVIDSON, C. W. NESTOR JR.. Nucl. Instrum. Methods Phys. Res. A589 (2008) 202
(Band-Raman ICC for gamma-ray transitions.)

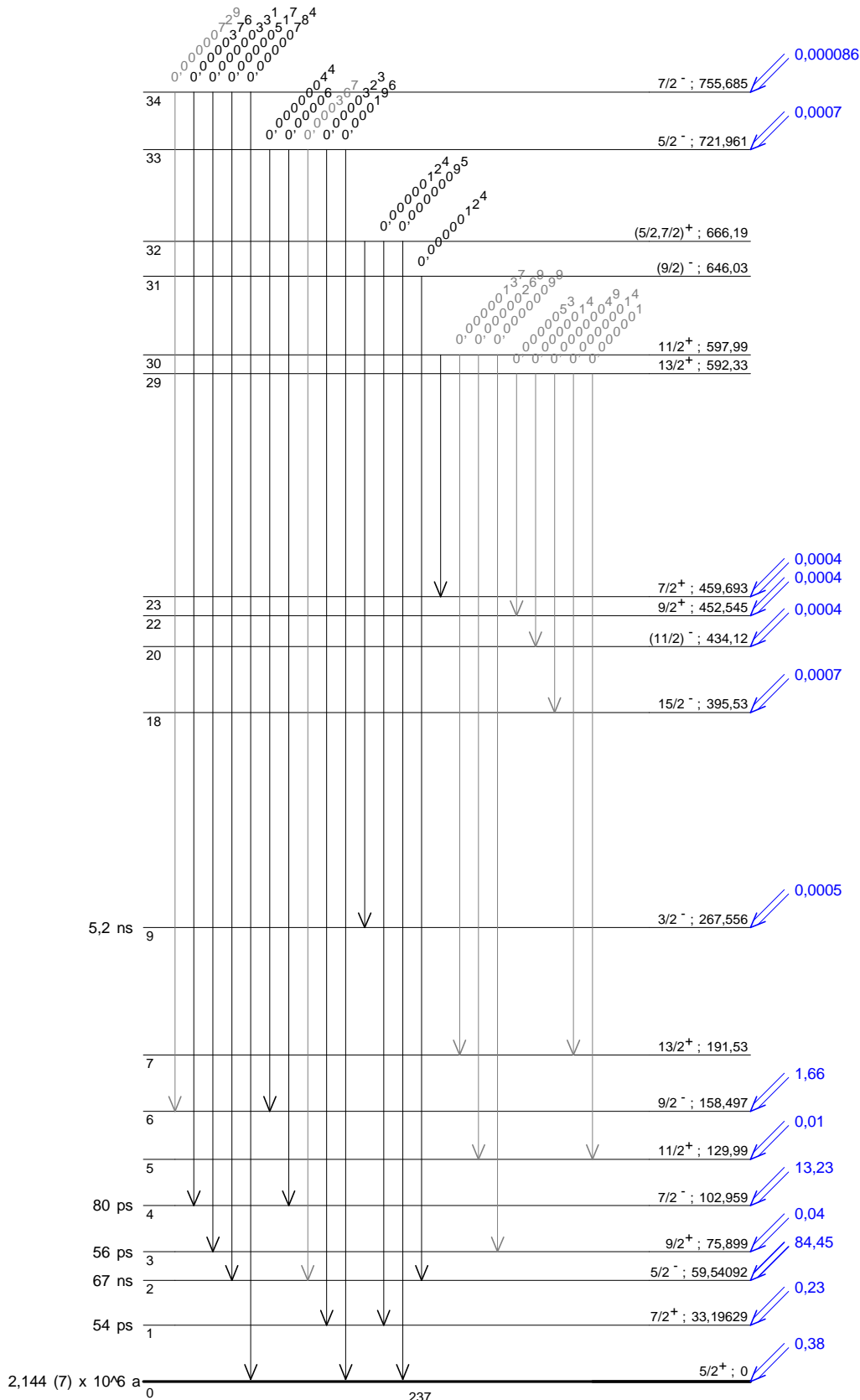


γ Emission intensities per 100 disintegrations

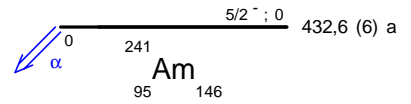




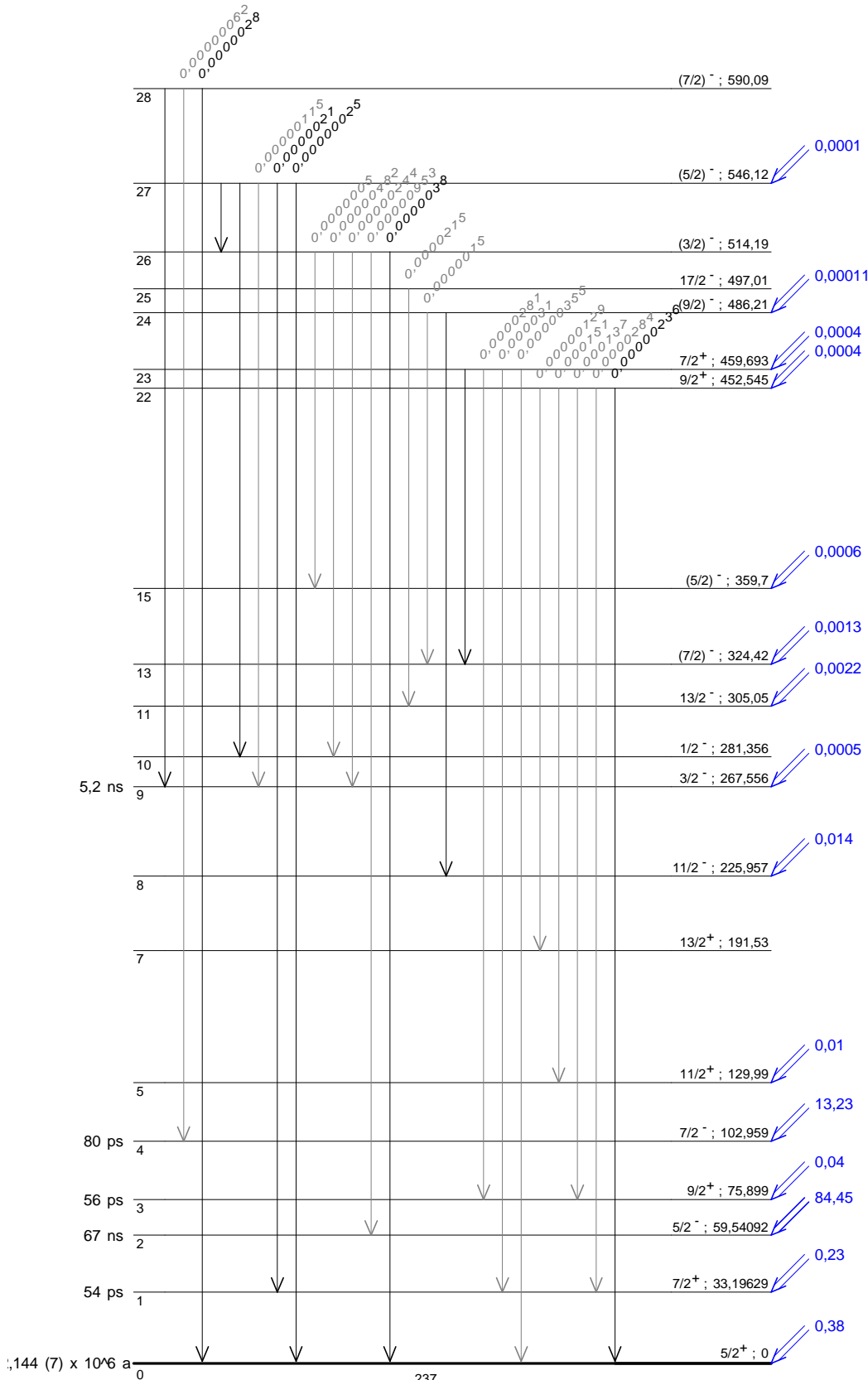
γ Emission intensities per 100 disintegrations



²³⁷Np
93 144
Q^α = 5637,82 keV
% α = 100

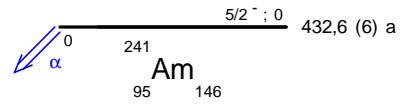


γ Emission intensities per 100 disintegrations

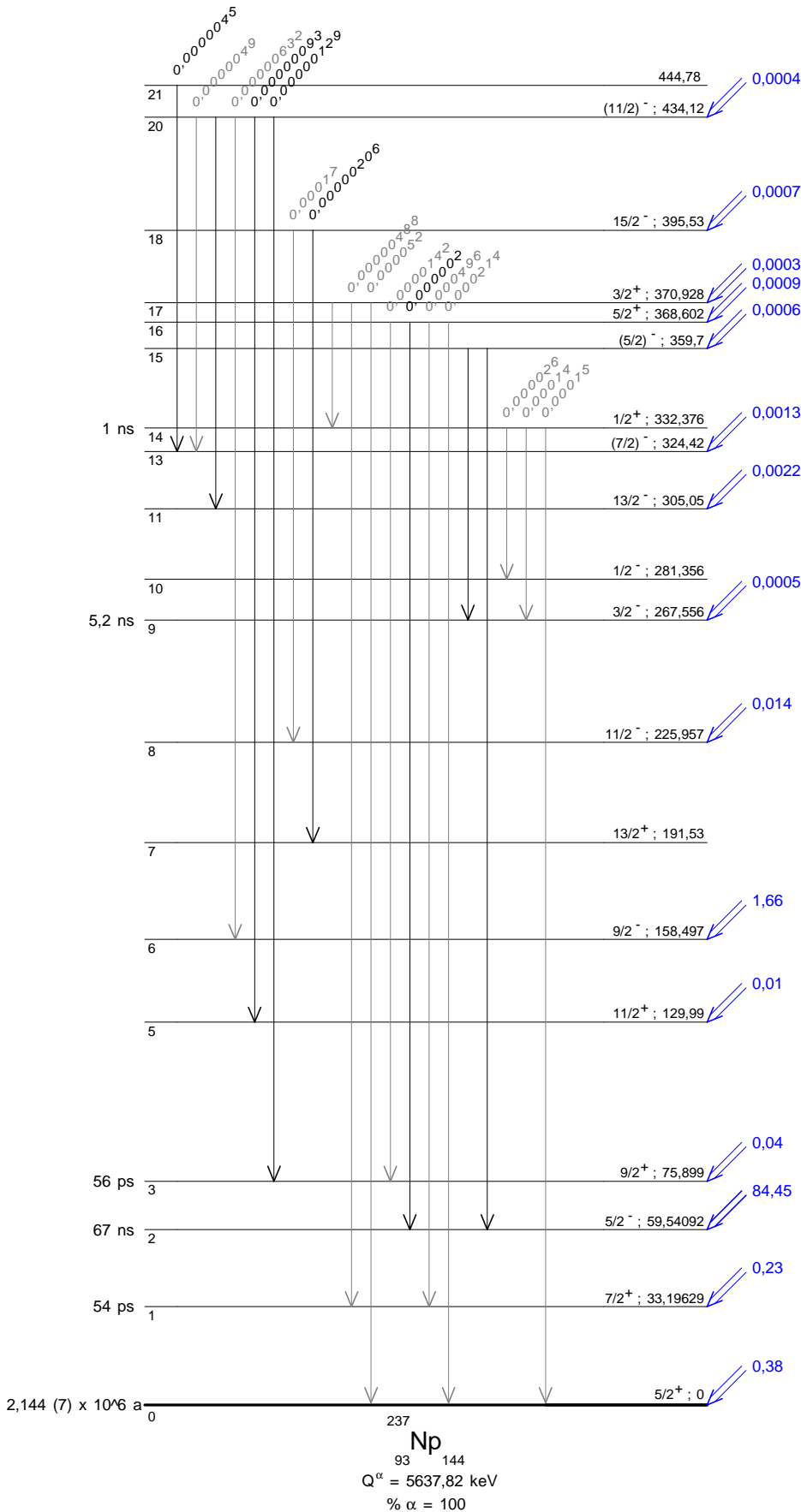


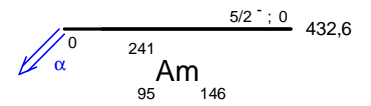
1,144 (7) x 10⁶ a

²³⁷Np
93 144
Q^α = 5637,82 keV
% α = 100

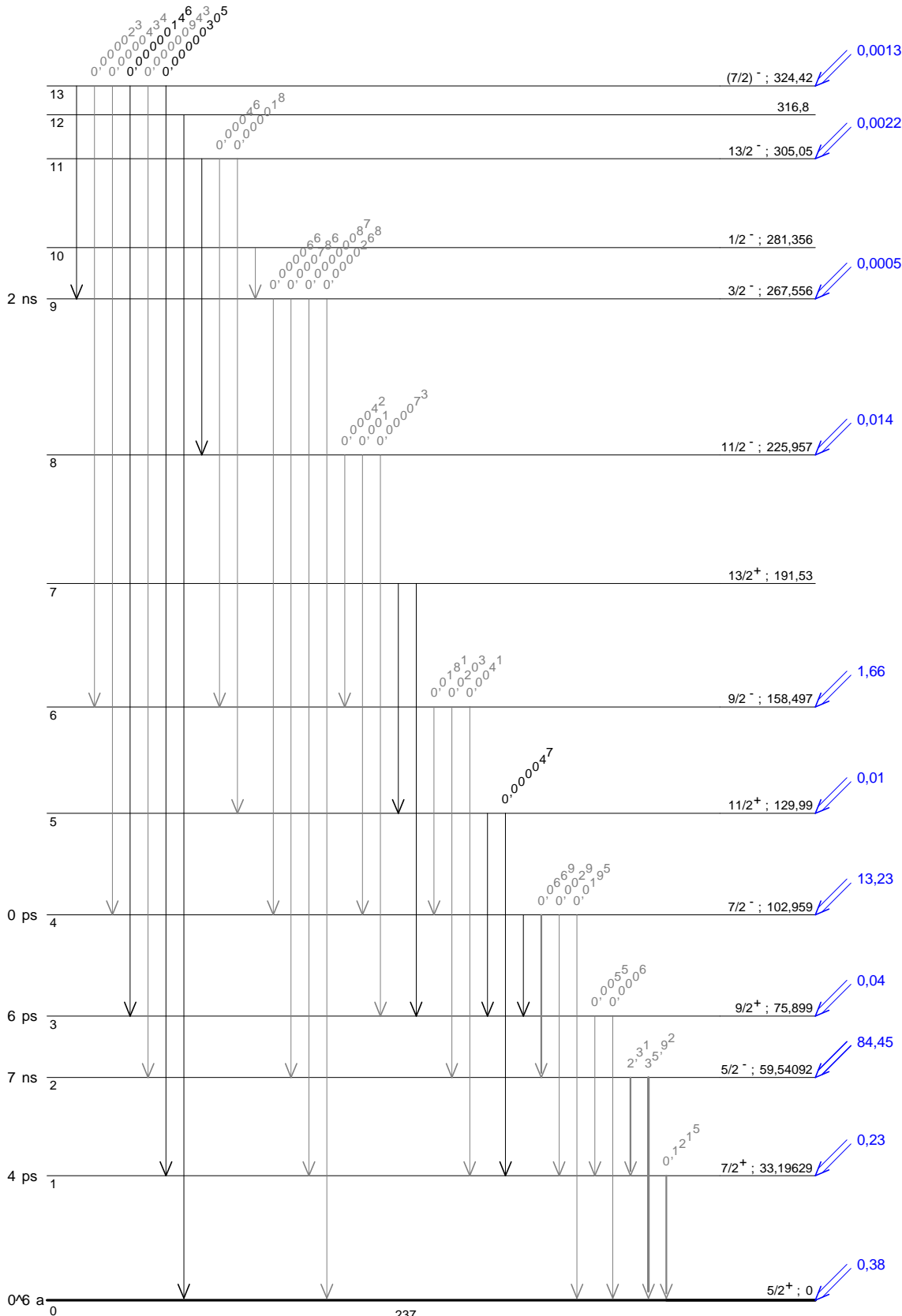


γ Emission intensities per 100 disintegrations





γ Emission intensities per 100 disintegrations



²³⁷Np
93 144
Q^α = 5637,82 keV
% α = 100