^{40}Sc $\varepsilon\alpha$ decay (182.3 ms) 1982Ho09

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Ninel Nica, John Cameron and Balraj Singh	NDS 113, 1 (2012)	31-Dec-2011

Parent: ^{40}Sc: E=0.0; $J^\pi=4^-$; $T_{1/2}$=182.3 ms *7*; Q($\varepsilon\alpha$)=7283 *3*; %$\varepsilon\alpha$ decay=0.017 *5*
^{40}Sc-Q($\varepsilon\alpha$): Deduced by the evaluators from atomic masses in 2011AuZZ.
1982Ho09: measured β-delayed α particles (Eα,Iα).

^{36}Ar Levels

E(level)	J^π	$T_{1/2}$
0	0^+	stable

Delayed Alphas (^{36}Ar)

E(α)†	E(^{36}Ar)	I(α)†#	E(^{40}Ca)‡	E(α)†	E(^{36}Ar)	I(α)†#	E(^{40}Ca)‡
2089 *6*	0	8.8×10^{-4} *2*	9362.54	3643 *12*	0	1.0×10^{-4} *1*	11087
2620 *8*	0	1.6×10^{-4} *1*	9954.00	3748 *5*	0	38×10^{-4} *8*	11202.7
2780 *8*	0	1.9×10^{-4} *1*	10130.70	3839 *7*	0	2.4×10^{-4} *1*	11311
2802 *8*	0	3.2×10^{-4} *1*	10154	3988 *7*	0	3.6×10^{-4} *1*	11468
2837 *8*	0	2.1×10^{-4} *1*	10193	4058 *6*	0	6.6×10^{-4} *2*	11549
3082 *7*	0	7.8×10^{-4} *2*	10470.0	4160 *7*	0	2.3×10^{-4} *1*	11663
3132 *7*	0	8.3×10^{-4} *2*	10514.8	4218 *7*	0	0.9×10^{-4} *1*	11726
3203 *7*	0	6.9×10^{-4} *2*	10596.2	4320 *6*	0	2.8×10^{-4} *1*	11841
3316 *5*	0	59×10^{-4} *12*	10720.8	4462 *7*	0	5.0×10^{-4} *2*	12000
3401 *7*	0	4.2×10^{-4} *2*	10813.7	4519 *9*	0	1.6×10^{-4} *1*	12068
3552 *12*	0	1.1×10^{-4} *1*	10988.0				

† From 1982Ho09.
‡ From ^{40}Ca Adopted Levels dataset.
# Absolute intensity per 100 decays.

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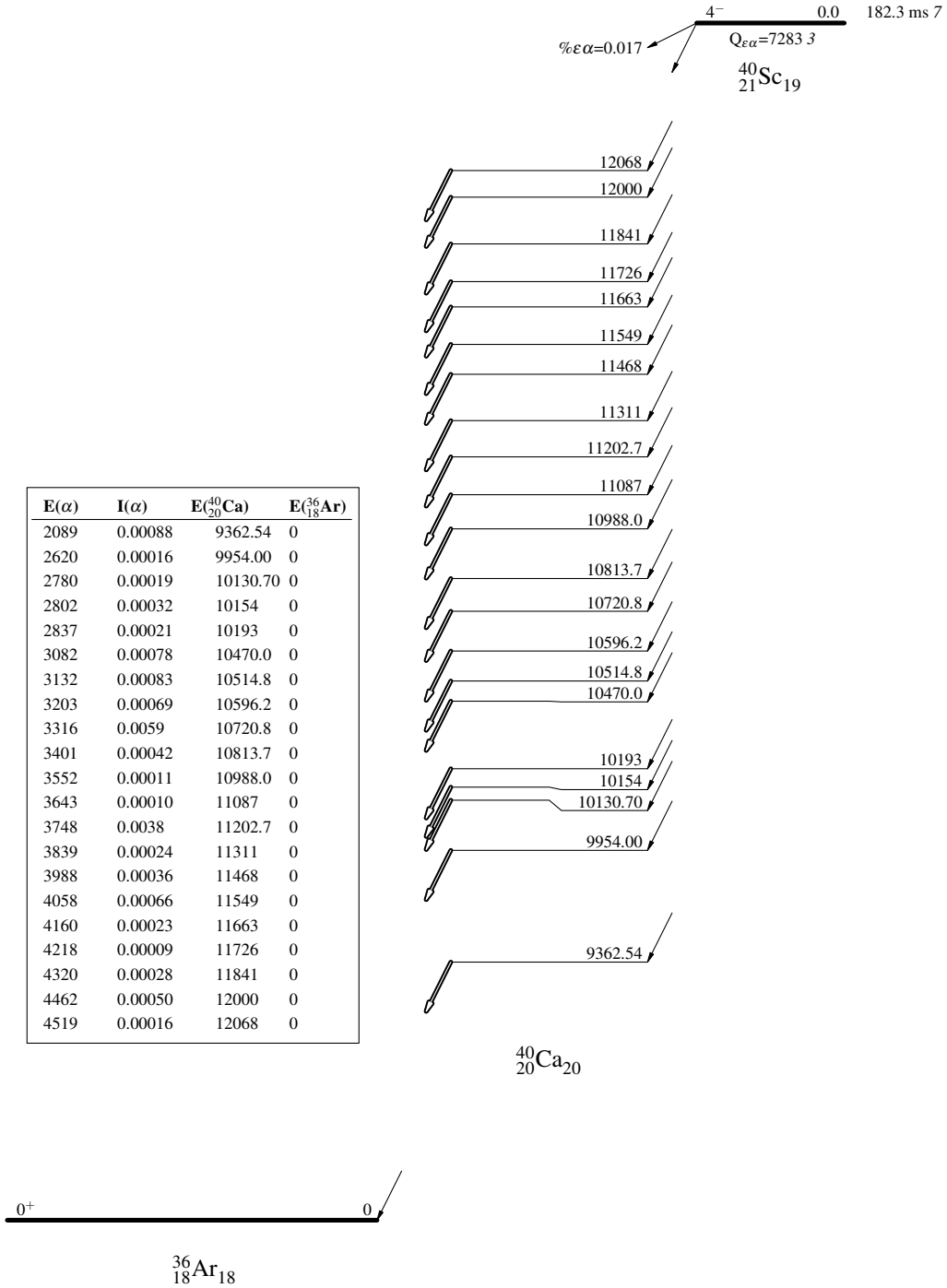
Decay Scheme

I(α) Intensities: I(α) per 100 parent decays



E(α)	I(α)	E($^{40}_{20}$Ca)	E($^{36}_{18}$Ar)
2089	0.00088	9362.54	0
2620	0.00016	9954.00	0
2780	0.00019	10130.70	0
2802	0.00032	10154	0
2837	0.00021	10193	0
3082	0.00078	10470.0	0
3132	0.00083	10514.8	0
3203	0.00069	10596.2	0
3316	0.0059	10720.8	0
3401	0.00042	10813.7	0
3552	0.00011	10988.0	0
3643	0.00010	11087	0
3748	0.0038	11202.7	0
3839	0.00024	11311	0
3988	0.00036	11468	0
4058	0.00066	11549	0
4160	0.00023	11663	0
4218	0.00009	11726	0
4320	0.00028	11841	0
4462	0.00050	12000	0
4519	0.00016	12068	0