^{30}Na β^-n decay 1989Ba07

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 113, 909 (2012)	1-Jan-2012

Parent: ^{30}Na: E=0; $J^\pi=2^+$; $T_{1/2}$=48 ms *2*; Q(β^-n)=10910 *30*; %β^-n decay=30 *4*

Other: 1984La03.

1989Ba07: ^{30}Na was produced bombarding a uranium carbide target with 600 MeV protons from the CERN synchrocyclotron, mass separated in the ISOLDE facility; NE213 scintillator, HPGe detectors and one neutron detector; Measured: Eγ, Iγ, $\gamma\gamma$ coin, γ-n coin.

^{29}Mg Levels

E(level)	J^π	Comments
0	$3/2^+$	J^π: From Adopted Levels.
54.6 *1*		
1095.1 *9*		
1430.6 *4*		
1638.0 *6*		
2265.9 *7*		

γ(^{29}Mg)

Iγ normalization: From 1989Ba07.

Eγ	Iγ[†]	E$_i$(level)	E$_f$	J^π_f
(54.6 *1*)		54.6	0	$3/2^+$
336.1 *3*	6.3 *4*	1430.6	1095.1	
1040.1 *4*	25.3 *15*	1095.1	54.6	
1638.0 *6*	1.9 *3*	1638.0	0	$3/2^+$
2211.0 *10*	1.2 *3*	2265.9	54.6	
2266.0 *10*	0.3 *1*	2265.9	0	$3/2^+$

[†] For absolute intensity per 100 decays, multiply by 0.126 *19*.

Delayed Neutrons (^{29}Mg)

E(n)	E(^{29}Mg)	I(n)[†]	E(^{30}Mg)	E(n)	E(^{29}Mg)	I(n)[†]	E(^{30}Mg)
71	0	8.7 *13*	6515	≈1530	1430.6	8.0 *10*	9460
115	0	8.0 *13*	6561	1870 *60*	1095.1	4.7 *7*	9470
180 *40*	0	0.7 *3*	6632	2070 *80*	1095.1	5.0 *7*	9677
242	0	2.0 *3*	6692	2270 *90*	0	1.7 *3*	8792
375	0	6.0 *10*	6830	2.44×10^3 *10*	0	1.7 *3*	8962
570 *70*	1095.1	2.0 *3*	8124	2.66×10^3 *12*	0	4.3 *7*	9192
668	1095.1	5.4 *7*	8228	3.02×10^3 *14*	0	8.4 *13*	9562
795	54.6	10.0 *17*	7319	4.63×10^3 *30*	0	1.7 *3*	11230
847	0		7319	5464 *40*	0	1.7 *3*	12090
≈1050	1095.1	6.7 *10*	8600	3.62×10^4 *20*	0	7.4 *10*	10182
1267	1095.1	6.0 *10*	8848				

[†] For absolute intensity per 100 decays, multiply by 0.30 *4*.

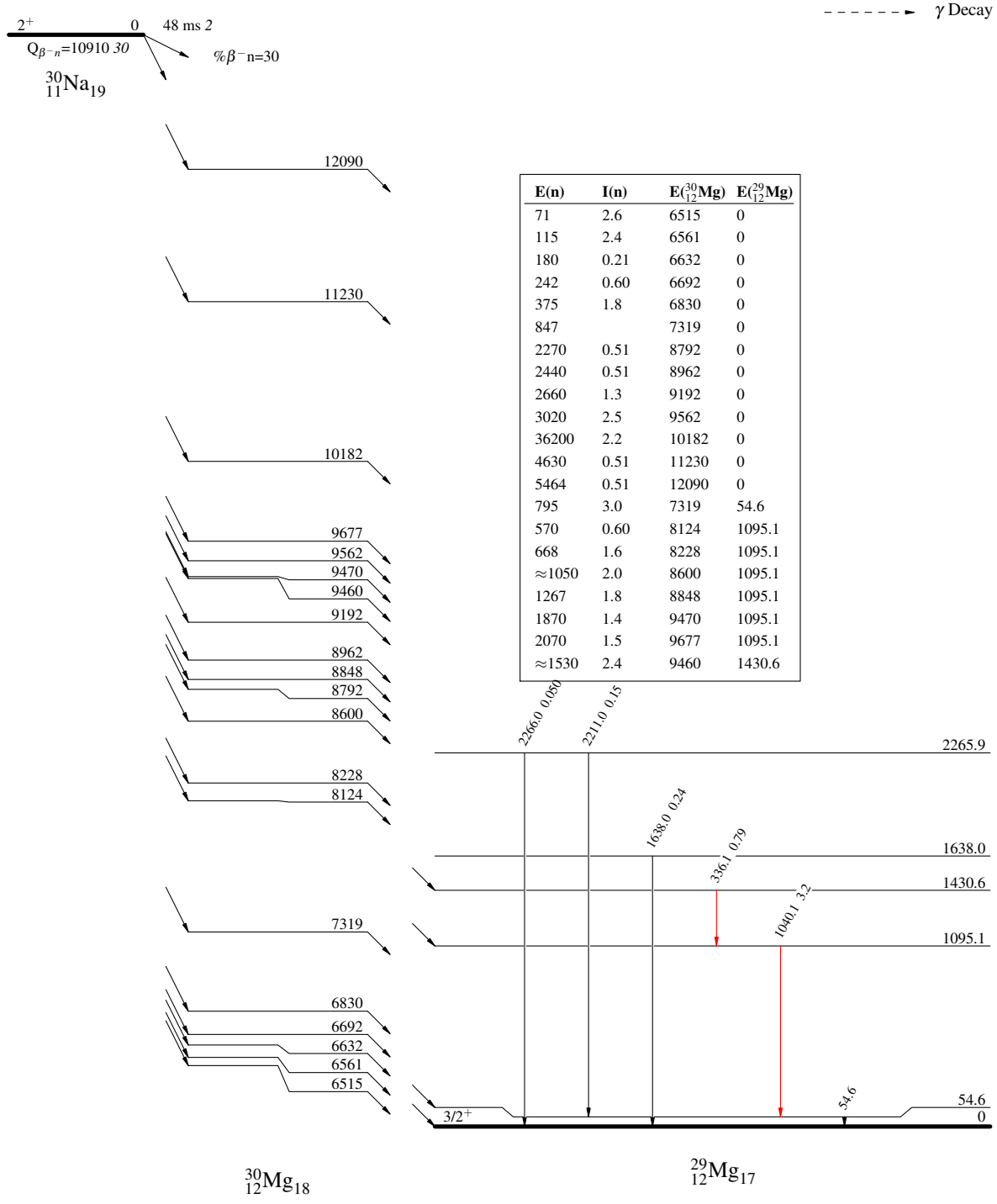
^{30}Na β^-n decay 1989Ba07

Decay Scheme

γ Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
I(n) Intensities: Relative I(n)

Legend

γ Decay (Uncertain)



E(n)	I(n)	E($^{30}_{12}$Mg)	E($^{29}_{12}$Mg)
71	2.6	6515	0
115	2.4	6561	0
180	0.21	6632	0
242	0.60	6692	0
375	1.8	6830	0
847		7319	0
2270	0.51	8792	0
2440	0.51	8962	0
2660	1.3	9192	0
3020	2.5	9562	0
36200	2.2	10182	0
4630	0.51	11230	0
5464	0.51	12090	0
795	3.0	7319	54.6
570	0.60	8124	1095.1
668	1.6	8228	1095.1
≈1050	2.0	8600	1095.1
1267	1.8	8848	1095.1
1870	1.4	9470	1095.1
2070	1.5	9677	1095.1
≈1530	2.4	9460	1430.6