Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia and A. M. Hurst	NDS 134, 1 (2016)	1-Feb-2016

Q(β^-)=7340 *19*; S(n)=5530 *50*; S(p)=18170 *80*; Q(α)=−11230 *60* 2012Wa38

Measured two-proton removal cross section, $\sigma_{inclusive}$=1.50 mb *10*, from ^{28}Mg (2004Bb03, 2003Ba52 − Same group).

Production cross section ~0.01 mb, measured in ^{40}Ar fragmentation reactions of both ^{9}Be(^{40}Ar,X), E=90A MeV, and ^{181}Ta(^{40}Ar,X), E=94A MeV − 2007No13. In 2006Kh08, cross section=2221 mb *21* at magnetic rigidity ($\beta\rho$)=2.753 Tm, E=51.75 MeV/u and cross section=2229 mb *15* at $\beta\rho$=2.575 Tm, E=45.25 MeV/u for Si(^{28}Ne,X) and related reduced strong absorption radius $<r_0^2>$=1.203 fm^2 *7* are measured. The later one is used to study the isospin dependence of the reduced strong absorption radius. Measured production cross section of ^{26}Ne from ^{36}S fragmentation, E=75 MeV/u, on Ta and C targets are ~0.1 mb/sr and ~0.01 mb/sr, respectively, at θ=0 (1999Dl01).

^{26}Ne Levels

Cross Reference (XREF) Flags

A	^{26}F β^- decay (8.2 ms)	D	^{9}Be(^{36}S,Xγ)
B	^{26}F β^- decay (2.2 ms)	E	^{26}Mg(π^-,π^+)
C	^{30}Na $\beta^-\alpha$ decay	F	Coulomb excitation

E(level)†	Jπ‡	$T_{1/2}$	XREF	Comments
0.0	0$^+$	197 ms *2*	AB DEF	%β^-=100; %β^-n=0.13 *3* $T_{1/2}$: From beta decay activity (1992Te03 − reported uncertainty *1* − probably statistical only − evaluator increased to *2*). Others: 192 ms *6* (82.5γ(t) − 2004We11); 2007Su05 reports 192 ms *4* (153γ(t)), 193 ms *3* (232γ(t)) and 190 ms *10* (1212γ(t)); 230 ms *60* (1987DuZU). %β^-n: from 1992Te03. Other:<0.2% (2004We11).
2018.0 *3*	2$^+$	0.60 ps *8*	AB D F	Jπ: E2 to 0$^+$. $T_{1/2}$: From B(E2)=0.0141 *18* (Coul. Ex. −2007Gi06) and adopted γ-ray properties.
3517.1 *5*	(3$^+$,4$^+$)		B D	Jπ: log *ft*=5.1 for b- from (4$^+$) in ^{26}F β^- decay (2.2 ms). γ to 2$^+$.
3690.8 *4*	(2$^+$)		AB DeF	Jπ: Jπ=0$^+$ was originally assigned in ^{26}Mg(π^-,π^+) (1980Na12). 2007Gi06 conclude the measured σ=7 mb *4* (^{26}Ne,^{26}Ne′γ) − is not consistent with Jπ=0$^+$ and comparing with shell model calculation it is assigned as 2+$_2$.
3815.2 *5*	(0$^+$)		A e	Jπ: log *ft*=5.6 for β- from (1$^+$) in ^{26}F β^- decay (9.7 ms) and shell model calculations.
5360.6 *10*	(3$^+$,4$^+$)		B	Jπ: log *ft*=5.7 for β- from (4$^+$) in ^{26}F β^- decay (2.2 ms).
≈9×10^3			F	B(E1)↑=0.0049 *16* (2008Gi09); B(E2)↑=0.0049 *8* (2008Gi09) E(level): E1 excited pygmy state detected at energies of ≈9 MeV (2008Gi09). This state decays by neutron emission to g.s., 1700, 2000, and 3300 levels in ^{25}Ne with branching ratios of 5% *17-5* to g.s.; 66% *15* to 1700+2000; and 35% *9* to 3300 levels, respectively.

† From a least-square fit to γ-ray energies.
‡ From comparison with shell model calculations. Additional arguments, if any, listed in comment section.

Adopted Levels, Gammas (continued)

$\gamma(^{26}Ne)$

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.	α[‡]	Comments
2018.0	2^+	2017.9 *3*	100	0.0	0^+	E2	3.25×10^{-4}	Mult.: From Coulomb excitation.
3517.1	$(3^+,4^+)$	1499.1 *4*	100	2018.0	2^+			E_γ: From ^{26}F β^- decay (2.2 ms).
3690.8	(2^+)	1672.75 *25*	100	2018.0	2^+			
3815.2	(0^+)	1797.1 *4*	100	2018.0	2^+	[E2]	2.20×10^{-4}	
5360.6	$(3^+,4^+)$	1843.4 *8*	100	3517.1	$(3^+,4^+)$			

[†] From ^{26}F β^- decay(9.7 ms), except otherwise noted.

[‡] Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

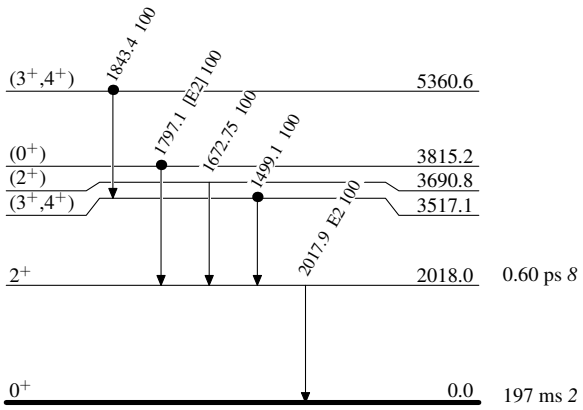
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

● Coincidence



$^{26}_{10}Ne_{16}$