Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 127, 69(2015)	1-Apr-2015

Q(β^-)=2.276×10^4 *20*; S(n)=1.28×10^3 *21*; S(p)=20894 *SY*; Q(α)=−2.22×10^4 *3* 2012Wa38
ΔS(p)=444(syst) 2012Wa38.
1979We10: First production of ^{22}N from fragmentation of ^{48}Ca beam, E=212 MeV/nucleon, on beryllium target (890 mg/cm^2).

^{9}Be(^{22}N,^{21}N) – 2011Ro21: Measured one neutron knock out cross section of σ_{-1n}=97 mb *34* and suggest that the ground state of ^{22}N exhibits a halo structure. ^{22}N beam was produced from fragmentation of ^{40}Ar beam, E=700 MeV/nucleon, on a Be target (4 g/cm^2) at GSI.

^{22}N Levels

Cross Reference (XREF) Flags

A ^{9}Be(^{26}F,X)
B C(^{36}S,Xγ)

E(level)	J$^\pi$ †	T$_{1/2}$	XREF	Comments
0.0	(0$^-$)	23 ms *3*	B	%β^-=100; %β^-n=34 *3*; %β^-2n=12 *3* T$_{1/2}$: Weighted average of 24.5 ms *65* (symmetric value of 24 ms *+7−6* 1990Mu06), 31 ms *5* (2001Pe14), 16.5 ms *+85−48* (2003Yo02 − used symmetric value of 18.3 ms *66*), 14 ms *6* (1995ReZZ), and 24 ms *3* (3198γ-t), 22 ms *4* (1845n-t), 21 ms *7* (total β-t) − all from 2010Su03. Uncertainty is the lowest experimental value. 2010Su03 adopted a ^{22}N half-life of 20 ms *2*, deduced (procedure not described) from measured values of neutron- (five), γ-ray (two) gated decay, and total β-decay (one) curves. %β^-n: Weighted average of 35 *5* (1990Mu06), 37 *14* (2001Pe14), 41 *+12−10* (2003Yo02), 33 *3* (2010Su03), 34 *14* (2008ReZZ). %β^-2n: From 2010Su03. Other: <13 (2003Yo02).
183 *16*	(1$^-$)		B	
1017 *25*	(2$^-$)		B	
1.93×10^3 *22*	(3$^-$)	<60 keV	A	E(level): unbound state, deduced from observed E(n)(c.m.)=650 *50* (width=60 keV). S(n)(^{22}N)=1280 *210* (2012Wa38). E(level),J$^\pi$: first 3$^-$ state from shell-model predictions (2009St20).

† From comparison with shell-model calculations.

γ(^{22}N)

E$_i$(level)	J$_i^\pi$	E$_\gamma$ †	I$_\gamma$	E$_f$	J$_f^\pi$
183	(1$^-$)	183 *16*	100	0.0	(0$^-$)
1017	(2$^-$)	834 *19*	100	183	(1$^-$)

† From (^{36}S,Xγ).

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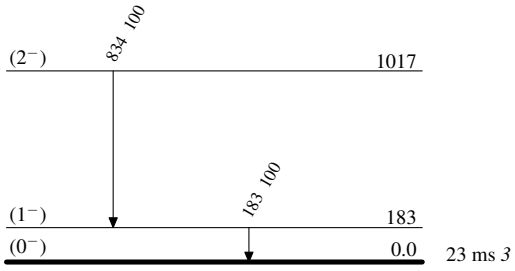
Level Scheme

Intensities: Relative photon branching from each level



$^{22}_{7}N_{15}$