^{23}Na(n,pγ) 1969Na02

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia[#], A. Chakraborty[##]	NDS 171, 1 (2021)	1-Jun-2020

E=8-9 MeV; Measured σ(E; Eγ, $\gamma(\theta)$). NaI(Tl) detector. Electron, proton, γ were separated by pulse shape discrimination. Deduced ^{23}Ne excited levels, spin and parity, mixing ratio.

^{23}Ne Levels

E(level)[†]	J$^{\pi}$[‡]
0.0	$5/2^+$
1020	$1/2^+$
1700	$7/2^{(+)}$[#]
1830	$3/2^{(+)}$
2310	$3/2^+$,$5/2^+$
2520	5/2,7/2,9/2[#]

[†] From Fig. 9 in 1969Na02,
[‡] From 1969Na02, $\gamma(\theta)$ measurement and literature, except where otherwise noted.
[#] From 1969Na02, $\gamma(\theta)$ measurement.

γ(^{23}Ne)

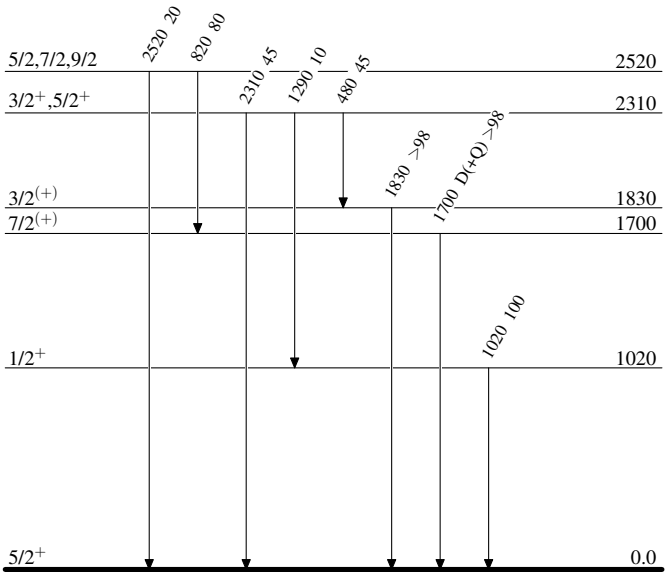
E$_i$(level)	J$_i^{\pi}$	E$_\gamma$[†]	I$_\gamma$[‡]	E$_f$	J$_f^{\pi}$	Mult.	δ	Comments
1020	$1/2^+$	1020	100	0.0	$5/2^+$			
1700	$7/2^{(+)}$	1700	>98	0.0	$5/2^+$	D(+Q)	+0.11 *12*	δ: From $+0.23 \le \delta \le +0.01$ (1969Na02).
1830	$3/2^{(+)}$	1830	>98	0.0	$5/2^+$			
2310	$3/2^+$,$5/2^+$	480	45	1830	$3/2^{(+)}$			
		1290	10	1020	$1/2^+$			
		2310	45	0.0	$5/2^+$			
2520	5/2,7/2,9/2	820	80	1700	$7/2^{(+)}$			
		2520	20	0.0	$5/2^+$			

[†] From level energy differences. Measured data (numerical value) not listed in 1969Na02.
[‡] From 1969Na02.

^{23}Na(n,pγ) 1969Na02

Level Scheme

Intensities: % photon branching from each level



$^{23}_{10}Ne_{13}$