^{30}Si(^{18}O,αnγ) 1998Be29

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen[#]	NDS 126, 1 (2015)	31-Mar-2015

1998Be29 (also 1997Be09,1996Be39): E=60 MeV ^{18}O beam was produced from the XTU Tandem of Laboratori Nazionali di Legnaro (LNL). Target of 360 μg/cm^2 SiO^2. γ-rays were detected in the multi-detector 4π GASP array of 36 Compton-suppressed HPGe detectors and 80 BGO detectors and heavy recoils were separated by the Recoil Mass Spectrometer (RMS). Measured Eγ, Iγ, $\gamma\gamma$. Deduced levels.

^{43}Ca Levels

E(level)	J$^\pi$[†]	E(level)	J$^\pi$[†]	E(level)	J$^\pi$[†]	E(level)	J$^\pi$[†]
0	7/2$^-$	1678 *1*	11/2$^-$	2951[‡] *1*	11/2$^+$	4591[#] *1*	17/2$^+$
373 *1*	5/2$^-$	1902[‡] *1*	7/2$^+$	3371[#] *1*	13/2$^+$	5555[‡] *1*	(19/2$^+$)
593 *1*	3/2$^-$	2094 *1*	9/2$^-$	3505 *1*	13/2$^+$	6223[#] *2*	(21/2$^+$)
990[‡] *1*	3/2$^+$	2410[#] *1*	9/2$^+$	3944[‡] *1*	15/2$^+$		
1394[#] *1*	5/2$^+$	2754 *1*	15/2$^-$	4187 *1*	15/2$^+$		

[†] As proposed by 1998Be29 and 1996Be39 based on DCO ratio analysis.
[‡] Band(A): 3/2$^+$ band.
[#] Band(B): 5/2$^+$ band.

γ(^{43}Ca)

E$_\gamma$	I$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	E$_\gamma$	I$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
220	1.0	593	3/2$^-$	373	5/2$^-$	801	0.3	1394	5/2$^+$	593	3/2$^-$
373	33.9	373	5/2$^-$	0	7/2$^-$	815	4.6	4187	15/2$^+$	3371	13/2$^+$
397	3.6	990	3/2$^+$	593	3/2$^-$	857	10.5	2951	11/2$^+$	2094	9/2$^-$
404	2.6	1394	5/2$^+$	990	3/2$^+$	912	1.1	1902	7/2$^+$	990	3/2$^+$
404	2.9	4591	17/2$^+$	4187	15/2$^+$	961	14.0	3371	13/2$^+$	2410	9/2$^+$
420	6.5	3371	13/2$^+$	2951	11/2$^+$	964	12.3	5555	(19/2$^+$)	4591	17/2$^+$
439	2.0	3944	15/2$^+$	3505	13/2$^+$	993	1.9	3944	15/2$^+$	2951	11/2$^+$
508	1.2	1902	7/2$^+$	1394	5/2$^+$	1016	8.2	2410	9/2$^+$	1394	5/2$^+$
508	1.2	2410	9/2$^+$	1902	7/2$^+$	1021	10.1	1394	5/2$^+$	373	5/2$^-$
541	2.9	2951	11/2$^+$	2410	9/2$^+$	1049	1.0	2951	11/2$^+$	1902	7/2$^+$
554	1.9	3505	13/2$^+$	2951	11/2$^+$	1076	75.4	2754	15/2$^-$	1678	11/2$^-$
573	19.6	3944	15/2$^+$	3371	13/2$^+$	1190	4.5	3944	15/2$^+$	2754	15/2$^-$
593	2.0	593	3/2$^-$	0	7/2$^-$	1611	18.6	5555	(19/2$^+$)	3944	15/2$^+$
617		990	3/2$^+$	373	5/2$^-$	1678	100	1678	11/2$^-$	0	7/2$^-$
617	4.9	3371	13/2$^+$	2754	15/2$^-$	1837	4.5	4591	17/2$^+$	2754	15/2$^-$
647	9.6	4591	17/2$^+$	3944	15/2$^+$	2094	13.9	2094	9/2$^-$	0	7/2$^-$
668	5.4	6223	(21/2$^+$)	5555	(19/2$^+$)	2410	7.5	2410	9/2$^+$	0	7/2$^-$
751	3.6	3505	13/2$^+$	2754	15/2$^-$						

^{30}Si(^{18}O,αnγ) 1998Be29

Level Scheme

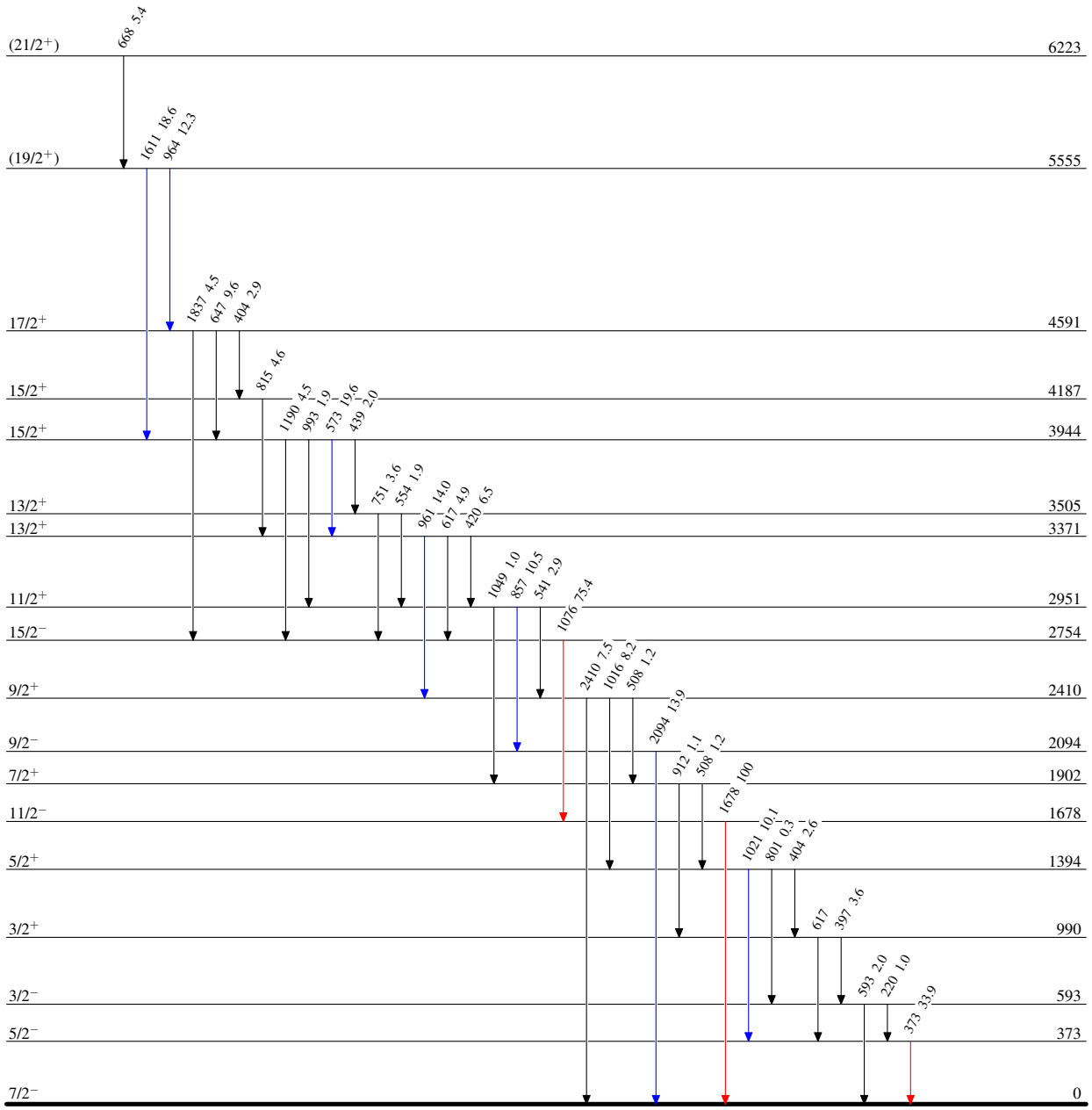
Intensities: Relative I_γ

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

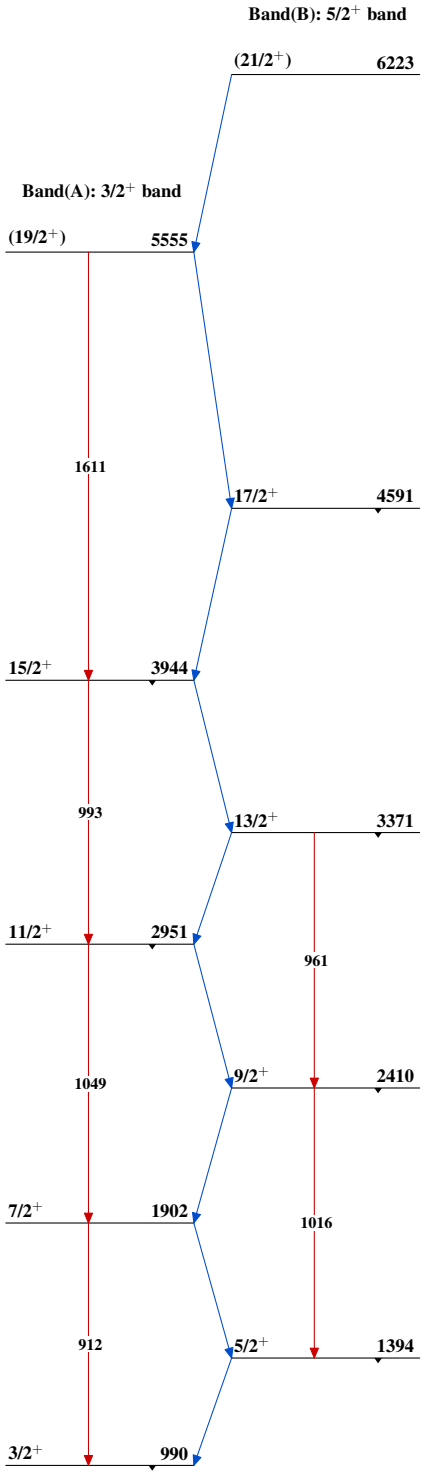
$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$



$^{43}_{20}Ca_{23}$

^{30}Si(^{18}O,αnγ) 1998Be29



$^{43}_{20}Ca_{23}$