^{26}Mg(^{18}O,2p2nγ) 2010Id02

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 140, 1 (2017)	30-Sep-2015

2010Id02: E=70 MeV ^{18}O beam was provided by the tandem accelerator at JAEA. Targets were two stacked self-supporting foils of enriched ^{26}Mg isotopes with thickness of 0.47 and 0.43 mg/cm^2. γ rays were detected with GEMINI-II array of 16 HPGe detectors with BGO Compton suppressors and charged particles were detected with a 4π array of ΔE Si detectors. Measured Eγ, Iγ, $\gamma\gamma$, (particle)γ coin, $\gamma\gamma(\theta)$(DCO), Doppler-shift attenuation. Deduced levels, J, π, quadrupole moment, band structure. Comparisons with cranked Hartree-Fock-Bogoliubov (HFB) calculations.

^{40}Ar Levels

E(level)†	J$^\pi$‡	E(level)†	J$^\pi$‡	E(level)†	J$^\pi$‡	E(level)†	J$^\pi$‡
0#	0$^+$	3463#	6$^+$	6016@	7$^-$	7999&	10$^-$
1461#	2$^+$	3515a	4$^+$	6421	(8$^-$)	8946@	11$^-$
2121a	0$^+$	4494@	5$^-$	6801a	8$^+$	9070a	10$^+$
2522a	2$^+$	4960a	6$^+$	6979&	8$^-$	11769a	(12$^+$)
2892#	4$^+$	5973&	(6$^-$)	7688@	9$^-$		

† From least-squares fit to γ-ray energies, assuming the same uncertainty for each γ ray.
‡ As given in 2010Id02, based on measured DCO ratios and band structure.
# Band(A): Member of $f^2_{7/2}$ yrast sequence.
@ Band(B): Band based on 5$^-$, α=1.
& Band(b): Band based on (6$^-$), α=0.
a Band(C): SD band. Q(transition)=1.45 *+49−31*(stat) *15*(syst) (2010Id02) from lifetime measurements for 993, 1445, 1841 and 2269 transitions in the SD band. Possible configuration=$\pi[(d5/2)^{-1.2}(s_{1/2}d_{3/2})^{-3.8}\ (fp)^{2.5}(g_{9/2})^{0.5}]\otimes\nu[(d5/2)^{-0.7}(s_{1/2}d_{3/2})^{-2.4}\ (fp)^{4.5}(g_{9/2})^{0.5}]$.

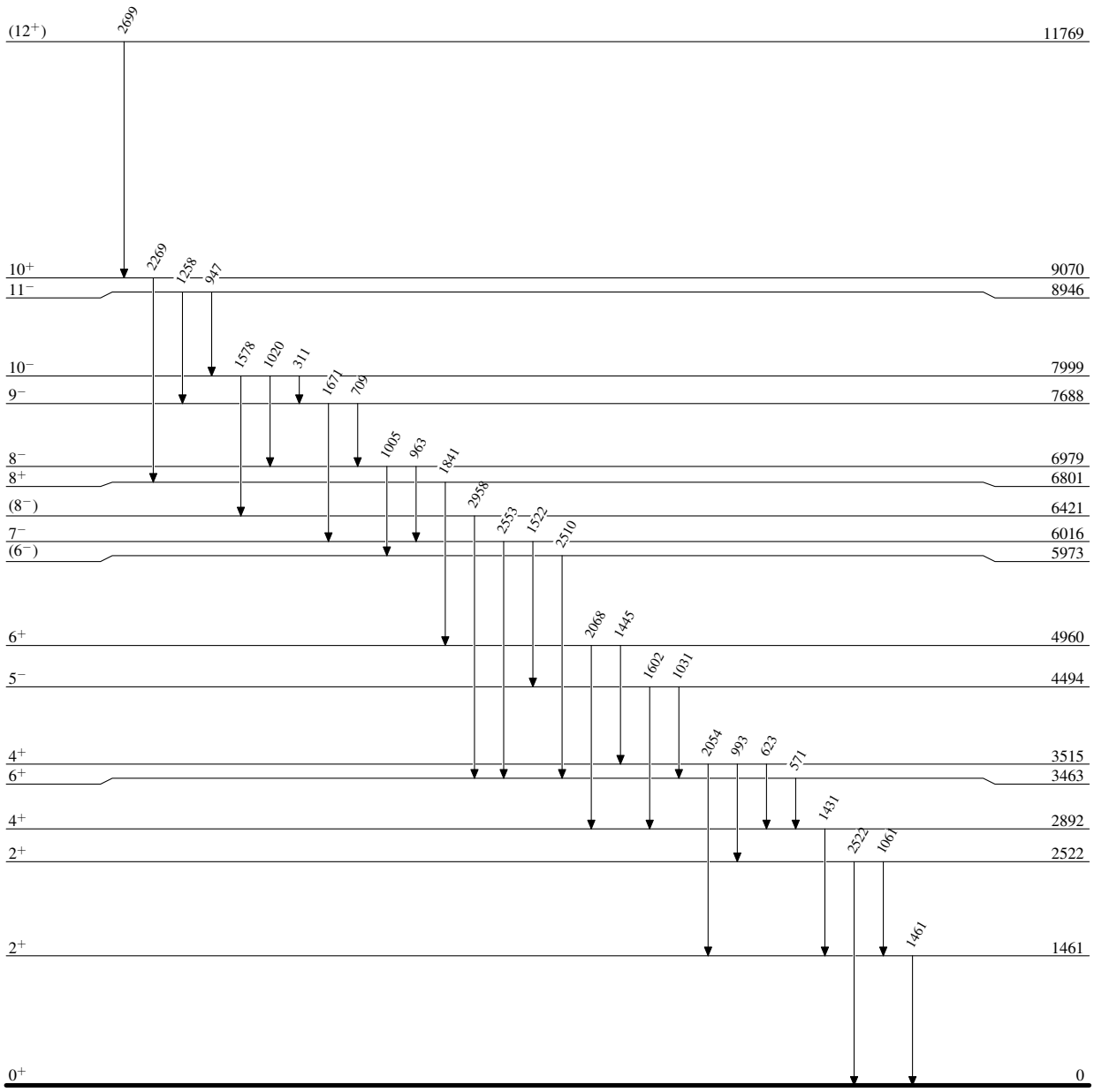
γ(^{40}Ar)

E$_\gamma$†	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	E$_\gamma$†	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	E$_\gamma$†	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
311	7999	10$^-$	7688	9$^-$	1061	2522	2$^+$	1461	2$^+$	2054	3515	4$^+$	1461	2$^+$
571	3463	6$^+$	2892	4$^+$	1258	8946	11$^-$	7688	9$^-$	2068	4960	6$^+$	2892	4$^+$
623	3515	4$^+$	2892	4$^+$	1431	2892	4$^+$	1461	2$^+$	2269	9070	10$^+$	6801	8$^+$
709	7688	9$^-$	6979	8$^-$	1445	4960	6$^+$	3515	4$^+$	2510	5973	(6$^-$)	3463	6$^+$
947	8946	11$^-$	7999	10$^-$	1461	1461	2$^+$	0	0$^+$	2522	2522	2$^+$	0	0$^+$
963	6979	8$^-$	6016	7$^-$	1522	6016	7$^-$	4494	5$^-$	2553	6016	7$^-$	3463	6$^+$
993	3515	4$^+$	2522	2$^+$	1578	7999	10$^-$	6421	(8$^-$)	2699	11769	(12$^+$)	9070	10$^+$
1005	6979	8$^-$	5973	(6$^-$)	1602	4494	5$^-$	2892	4$^+$	2958	6421	(8$^-$)	3463	6$^+$
1020	7999	10$^-$	6979	8$^-$	1671	7688	9$^-$	6016	7$^-$					
1031	4494	5$^-$	3463	6$^+$	1841	6801	8$^+$	4960	6$^+$					

† From 2010Id02. Uncertainties are not given and the evaluator has assumed the same uncertainty for each γ ray in the level fitting procedure.

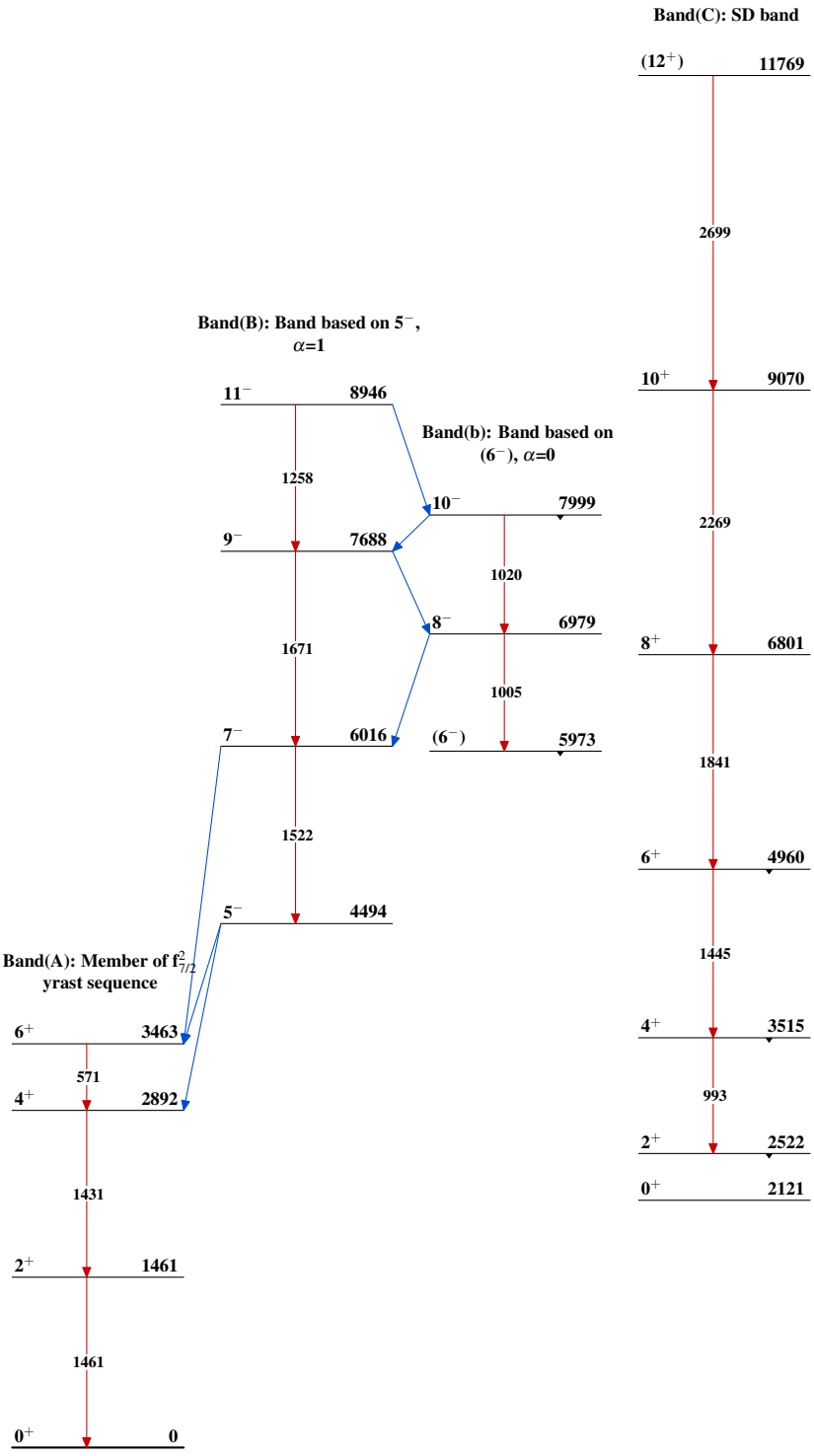
^{26}Mg(^{18}O,2p2nγ) **2010Id02**

Level Scheme



$^{40}_{18}Ar_{22}$

^{26}Mg(^{18}O,2p2nγ) 2010Id02



$^{40}_{18}Ar_{22}$