^{28}Si(^{19}F,2npγ) 1974Ko22

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen and Balraj Singh	NDS 190,1 (2023)	20-Jun-2023

1974Ko22: E=45-55 MeV ^{19}F beams were produced from the BNL MP tandem accelerators. Natural Si target. γ rays were detected with Ge(Li) detectors. Measured Eγ, Iγ, γ(θ), γγ-coin, γ(lin pol). Deduced levels, J^π, lifetime for the level of 3546 keV using the Recoil Distance Method (RDM).

All data are from 1974Ko22, unless otherwise noted.

^{44}Ti Levels

E(level)[†]	J^π[‡]	$T_{1/2}$[#]
0.0[@]	0^+	
1083.18[@] *10*	2^+	
2454.44[@] *18*	4^+	
3175.8 *6*	(3^-)	
3645.6 *6*	(4^-)	2.7 ps *9*
4015.37[@] *24*	6^+	
4061.9 *5*	(5^-)	
6508.6[@] *4*	(8^+)	
7671.1[@] *4*	(10^+)	
8039.9[@] *4*	(12^+)	>1.4 ns

[†] From a least-squares fit to Eγ data.
[‡] Proposed in 1974Ko22 for excited states, based on measured γ(θ), γ(lin pol) and band assignments.
[#] From RDM in 1974Ko22.
[@] Band(A): g.s. band.

γ(^{44}Ti)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	Comments
368.80 *10*		8039.9	(12^+)	7671.1	(10^+)	Q	A_2=+0.27 *4*; A_4=−0.11 *5*
469.86 *10*		3645.6	(4^-)	3175.8	(3^-)	(D)	A_2=−0.26 *3*; A_4=0
886.4 *5*		4061.9	(5^-)	3175.8	(3^-)	(Q)	A_2=+0.14 *9*; A_4=+0.29 *10*
1083.17 *10*	155.5	1083.18	2^+	0.0	0^+	E2	A_2=+0.147 *16*; A_4=−0.052 *16*; pol=+0.25 *11*
1162.49 *15*		7671.1	(10^+)	6508.6	(8^+)	Q	A_2=+0.28 *7*; A_4=−0.04 *7*
1371.21 *15*	59.3	2454.44	4^+	1083.18	2^+	Q	A_2=+0.25 *3*; A_4=−0.04 *4*; pol=−0.14 *40*
1560.90 *15*	31.0	4015.37	6^+	2454.44	4^+	Q	A_2=+0.17 *4*; A_4=−0.03 *5*; pol=−0.06 *34*
1607.2 *5*	46.1	4061.9	(5^-)	2454.44	4^+	(D)	A_2=−0.27 *5*; A_4=−0.15 *5*; pol=0.00 *34*
2093.2 *8*		3175.8	(3^-)	1083.18	2^+	(D)	A_2=−0.32 *4*; A_4=0
2493.16 *25*		6508.6	(8^+)	4015.37	6^+	Q	A_2=+0.28 *6*; A_4=−0.08 *7*

[†] 1974Ko22 list relative intensities only for 4 transitions for which γ(lin pol) is measured.
[‡] From γ(θ) and γ(lin pol) in 1974Ko22. The authors have proposed magnetic or electric natures based on level scheme and the evaluators have removed such assignments where no evidence is from experimental data in this work.

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Level Scheme

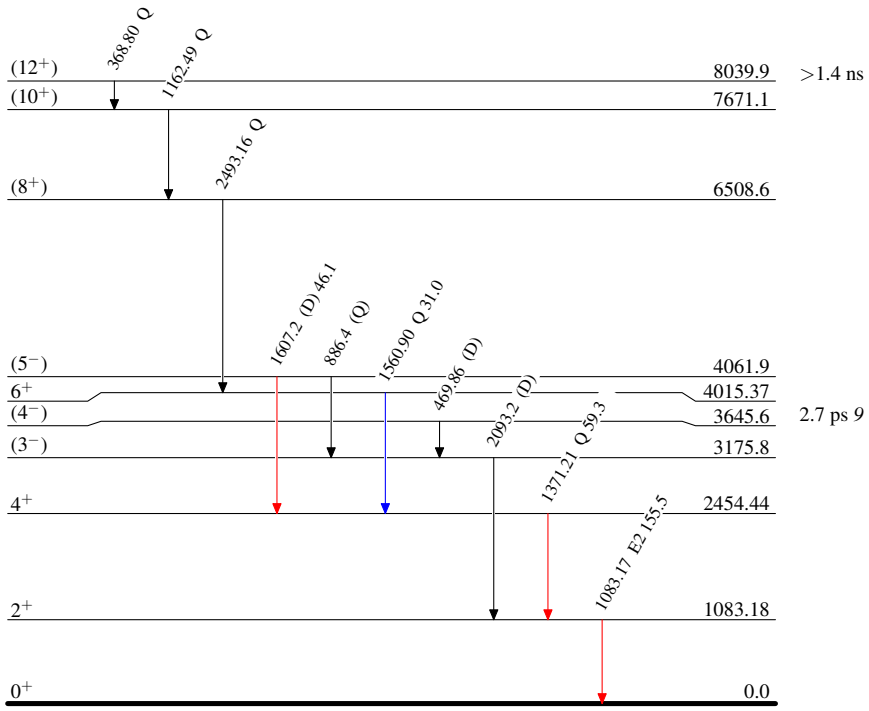
Intensities: Relative I_γ

Legend

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

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

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



$^{44}_{22}Ti_{22}$

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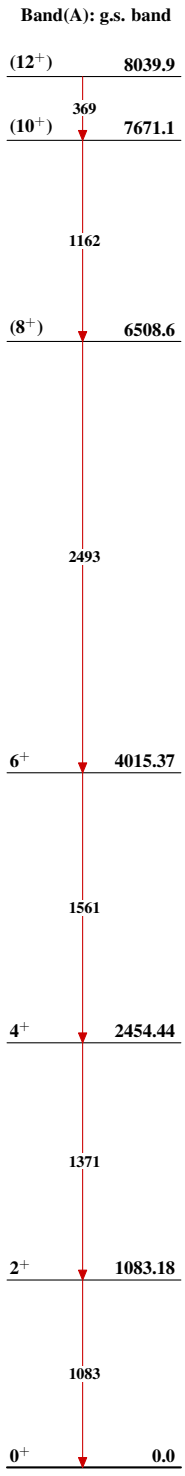

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