

⁴⁰Ca(⁴⁰Ca,2p2n γ) 2007Da04

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh, Jun Chen and Ameenah R. Farhan		NDS 194,3 (2024)	8-Jan-2024

2007Da04: E=165 MeV. Measured E γ , I γ , $\gamma\gamma$ using GAMMASPHERE array consisting of 101 HPGe detectors and 4 π CsI Microball array for charged particles.

⁷⁶Sr Levels

E(level) [†]	J π [‡]	E(level) [†]	J π [‡]	E(level) [†]	J π [‡]
0.0 [#]	0 ⁺	2340.5 [#] 4	8 ⁺	7426.6 [#] 21	16 ⁺
262.3 [#] 2	2 ⁺	3409.5 [#] 11	10 ⁺	8943.6 [#] 23	18 ⁺
746.7 [#] 3	4 ⁺	4629.5 [#] 15	12 ⁺	10536.6 [#] 25	20 ⁺
1446.3 [#] 4	6 ⁺	5978.5 [#] 18	14 ⁺	12276.6 [#] 27	22 ⁺
				14229.6? [#] 29	(24 ⁺)

[†] From E γ data.

[‡] As proposed in 2007Da04 based on band assignment. When considered in Adopted Levels, those assignments of excited states will be placed in parentheses if there are no supporting experimental evidences.

[#] Band(A): yrast band. Band crossing observed at a $\hbar\omega=0.74$ MeV *I* due to the alignment of g_{9/2} proton-neutron pair.

γ (⁷⁶Sr)

A 1498 γ from 16⁺ state reported in 2001Fi13 was not seen by 2007Da04.

E γ	I γ	E _i (level)	J π _i	E _f	J π _f	E γ	I γ	E _i (level)	J π _i	E _f	J π _f
262.3 2	[†]	262.3	2 ⁺	0.0 0 ⁺		1349 1	36 3	5978.5	14 ⁺	4629.5	12 ⁺
484.4 2	[†]	746.7	4 ⁺	262.3 2 ⁺		1448 1	12 2	7426.6	16 ⁺	5978.5	14 ⁺
699.6 2	100	1446.3	6 ⁺	746.7 4 ⁺		1517 1	<10	8943.6	18 ⁺	7426.6	16 ⁺
894.2 2	70 9	2340.5	8 ⁺	1446.3 6 ⁺		1593 1	<10	10536.6	20 ⁺	8943.6	18 ⁺
1069 1	55 6	3409.5	10 ⁺	2340.5 8 ⁺		1740 1	<10	12276.6	22 ⁺	10536.6	20 ⁺
1220 1	42 3	4629.5	12 ⁺	3409.5 10 ⁺		1953 [‡] 1	<10	14229.6? (24 ⁺)		12276.6	22 ⁺





[†] Gating transition for $\gamma\gamma\gamma$ triples data, thus no intensity is quoted for this transition.

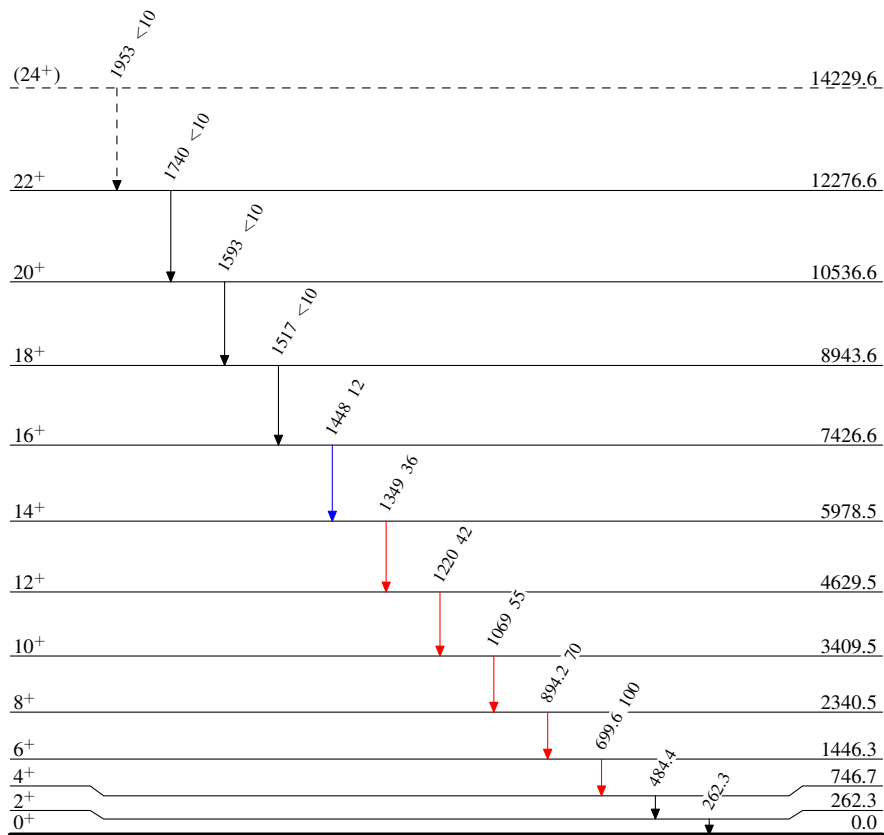
[‡] Placement of transition in the level scheme is uncertain.

$^{40}\text{Ca}(^{40}\text{Ca}, 2p2n\gamma)$ 2007Da04

Legend

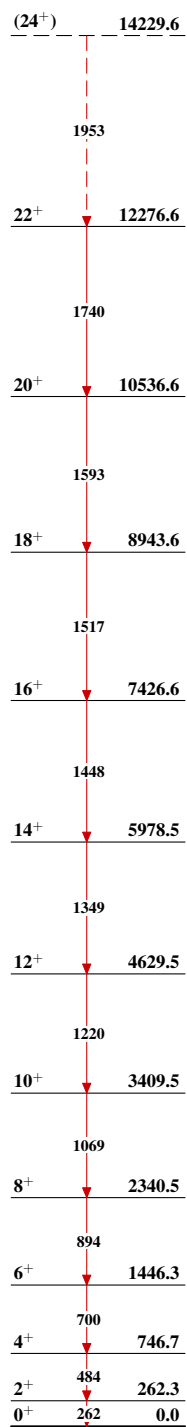
Level Scheme
Intensities: Relative I_γ

-  $I_\gamma < 2\% \times I_\gamma^{\max}$
-  $I_\gamma < 10\% \times I_\gamma^{\max}$
-  $I_\gamma > 10\% \times I_\gamma^{\max}$
-  γ Decay (Uncertain)

 $^{76}_{38}\text{Sr}_{38}$

${}^{40}\text{Ca}({}^{40}\text{Ca}, 2\text{p}2\text{n}\gamma) \quad 2007\text{Da}04$

Band(A): Yrast band

 ${}^{76}_{38}\text{Sr}_{38}$