

⁴⁸Ca(d,pγ) E=6 MeV 1987Ta03,1971Ca22

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	T. W. Burrows ^a	NDS 109, 1879 (2008)	14-Jul-2008

See also ²H(⁴⁸Ca,⁴⁹Caγ) E=105 MeV.

1971Ca22: E=6 MeV. Measured py-coincidences; Si.

1987Ta03: E=6 MeV. Measured py-coin; Si. DSAM.

⁴⁹Ca Levels

E(level) [†]	J ^π [‡]	T _{1/2} [#]	Comments
0.0	3/2 ⁻		
2022 2	1/2 ⁻	<5.5 fs	
3351 2	(9/2 ⁺)		T _{1/2} >693 fs<0.3 ns T _{1/2} : lower limit from DSAM (1987Ta03); upper limit from delayed-coincidence measurement (1971Ca22).
3586 2	5/2 ⁻	40 fs +23-16	
3861 2	(1/2 ⁻ ,3/2 ⁻)		
3991 2	5/2 ⁻	9.7 fs +49-35	
4010 3	7/2 ⁺ ,9/2 ⁺	0.60 ps +35-18	
4065 2	3/2 ⁻	60 fs +21-19	
4272 2	1/2 ⁻	25 fs +22-17	
4416 2	5/2 ⁺	<32 fs	
4885 3	9/2 ⁺		J ^π : J=9/2 favored from lack of decay to 3586, 5/2 ⁻ (1971Ca22).

[†] From 1971Ca22.

[‡] From the Adopted Levels.

[#] From 1987Ta03, except As noted.

γ(⁴⁹Ca)

All data are from 1971Ca22. Coincidences shown on the drawing indicate gammas in coincidence with proton groups corresponding to excitation energies of 3.58, 3.9 to 4.1, 4.27, and 4.89 MeV.

E _i (level)	J _i ^π	E _γ	I _γ [†]	E _f	J _f ^π
2022	1/2 ⁻	2022		0.0	3/2 ⁻
3351	(9/2 ⁺)	3351		0.0	3/2 ⁻
3586	5/2 ⁻	3586		0.0	3/2 ⁻
3861	(1/2 ⁻ ,3/2 ⁻)	3861		0.0	3/2 ⁻
3991	5/2 ⁻	3991		0.0	3/2 ⁻
4010	7/2 ⁺ ,9/2 ⁺	424 [#]	<3	3586	5/2 ⁻
		659	>97	3351	(9/2 ⁺)
4065	3/2 ⁻	4065		0.0	3/2 ⁻
4272	1/2 ⁻	2250	70 [‡] 14	2022	1/2 ⁻
		4272	30 [‡] 6	0.0	3/2 ⁻
4416	5/2 ⁺	4416		0.0	3/2 ⁻
4885	9/2 ⁺	875	80 16	4010	7/2 ⁺ ,9/2 ⁺
		1299 [#]	<10	3586	5/2 ⁻
		1531	20 4	3351	(9/2 ⁺)

[†] % photon branching from each level, not corrected for angular correlation effects. Transitions with upper limits on the intensities

Continued on next page (footnotes at end of table)

${}^{48}\text{Ca}(\text{d,p}\gamma)$ E=6 MeV **1987Ta03,1971Ca22** (continued)

$\gamma({}^{49}\text{Ca})$ (continued)

were looked for but not observed.

‡ Note discrepancy with $I_{\gamma}(2249\gamma)/I_{\gamma}(4272\gamma)=27.6/31.8$ from from β^{-} decay.

Placement of transition in the level scheme is uncertain.

$^{48}\text{Ca}(\text{d},\text{p}\gamma) \text{E}=6 \text{ MeV}$ 1987Ta03,1971Ca22

Legend

Level Scheme

Intensities: % photon branching from each level, not corrected for angular correlation effects. Correlation effect: Decay (Uncertain)

● Coincidence

