

Coulomb excitation

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	D. De Frenne	NDS 110, 1745 (2009)	31-Dec-2008

1977La16: $^{102}\text{Pd}(^{16}\text{O}, ^{16}\text{O}')$, E=37 MeV, enriched target.

1977Ma41: $^{102}\text{Pd}(\alpha, \alpha'\gamma)$, ($^{16}\text{O}, ^{16}\text{O}'\gamma$) and ($^{32}\text{S}, ^{32}\text{S}'\gamma$) with E=8.5, 33 and 48 MeV, respectively, natural target.

1979An23: $^{102}\text{Pd}(\text{p}, \text{p}')$, E=6 MeV, enriched target (same data are analyzed by 1980Fo15).

1980Br01: $^{102}\text{Pd}(^{32}\text{S}, ^{32}\text{S}')$, E \approx 72-80 MeV, enriched target.

1986KaZM, 1986Lu06: $^{102}\text{Pd}(\text{p}, \text{p}')$, E(p)=6.9 MeV. Enriched target.

Data are from 1986Lu06, unless noted otherwise.

 ^{102}Pd Levels

E(level) [†]	J π [‡]	T _{1/2}	Comments
0	0 ⁺		
556.5	2 ⁺	11.5 ps 8	B(E2) \uparrow =0.46 3; β_2 =0.16 2 g=0.41 4 B(E2): from 1977La16. Used as normalization for all other B(E2)'s obtained by 1986Lu06. β_2 : weighted average of 0.17 2 (1979An23, DWBA) and 0.15 2 (1980Fo15, CCBA), both from (p,p') at E(p)=6 MeV. g: From dynamic field technique (1980Br01). T _{1/2} : deduced by the evaluators from B(E2) value. Q=-0.2 2, estimated by 1977La16 under the assumption of a positive interference term. For ^{102}Ru , however, this interference term was found to be negative (1976Fa02). Q=-0.21 7 (1977Ma41); value based on the sum intensity for the unresolved 556-keV γ -rays of ^{102}Pd and ^{104}Pd and determined relative to Q=-0.72 for ^{110}Pd .
1276.1	4 ⁺	2.04 ps 10	T _{1/2} : deduced by the evaluator from B(E2)(J=2 to 4) value. B(E2)(J=first 2 ⁺ to 4 ⁺)=0.26 2.
1534	2 ⁺	0.65 ps 5	B(E2) \uparrow =0.026 2 B(E2)(J=first 2 ⁺ to second 2 ⁺)=0.045 3. T _{1/2} : deduced by the evaluator from B(E2) value and I γ (977)/I γ (1534+977)=0.49 4.
1593.0	0 ⁺	14.3 ns 5	T _{1/2} : from $\gamma(t)$ In(p,p' γ). B(E2)(J=second 2 ⁺ to second 0 ⁺)=5.4 \times 10 ⁻² 22. B(E2)(J=first 2 ⁺ to second 0 ⁺)<2.4 \times 10 ⁻⁵ .
1658.1	0 ⁺	0.87 ps 22	T _{1/2} : deduced by the evaluator from B(E2)(J=second 2 ⁺ to third 0 ⁺)=0.008 2. B(E2)(J=first 2 ⁺ to third 0 ⁺)=0.008 2.
1944.4	2 ⁺	1.9 ps 7	T _{1/2} : deduced by the evaluator from B(E2)(J=0 to third 2 ⁺)=0.0010 3. B(E2)(J=0 to third 2 ⁺)=0.0010 3. B(E2)(J=first 2 ⁺ to third 2 ⁺)=0.0038 12. B(E2)(J=second 0 ⁺ to third 2 ⁺)=0.25 16.
2138.4	4 ⁺	0.52 ps 13	T _{1/2} : deduced by the evaluator from B(E2)(J=2 to 4')=0.017 4. B(E2)(J=second 2 ⁺ to second 4 ⁺)=0.023 5. B(E2)(J=first 2 ⁺ to second 4 ⁺)=0.017 4.
2341.7	(3 ⁻)		B(E3) \uparrow =0.060 6

[†] From 1986Lu06, unless noted otherwise.

[‡] From Adopted Levels.

Coulomb excitation (continued) $\gamma(^{102}\text{Pd})$

E_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.	Comments
58.3	1593.0	0 ⁺	1534	2 ⁺		
351.7	1944.4	2 ⁺	1593.0	0 ⁺		
556.5	556.5	2 ⁺	0	0 ⁺		
603.2	2138.4	4 ⁺	1534	2 ⁺		
719.2	1276.1	4 ⁺	556.5	2 ⁺		
978.1	1534	2 ⁺	556.5	2 ⁺		
1035.6	1593.0	0 ⁺	556.5	2 ⁺		
1101.5	1658.1	0 ⁺	556.5	2 ⁺		
1387.8	1944.4	2 ⁺	556.5	2 ⁺		
1534.5	1534	2 ⁺	0	0 ⁺	E2	
1581.5	2138.4	4 ⁺	556.5	2 ⁺		
1593.0	1593.0	0 ⁺	0	0 ⁺	E0	$\rho^2(\text{J=second } 0^+ \text{ to } 0)=4.0 \times 10^{-3}$.
1658.1	1658.1	0 ⁺	0	0 ⁺	E0	$\rho^2(\text{J=second } 0 \text{ to } 0)<0.3 \times 10^{-3}$.
1944.4	1944.4	2 ⁺	0	0 ⁺		

Coulomb excitationLevel Scheme