

Coulomb excitation

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

¹⁰²Ru(α, α') E=8.5,9.0 MeV (1979Bo28), E=8.5-9.5 MeV (1980La01).
¹⁰²Ru($\alpha, \alpha' \gamma$) E=10 MeV (1968Mc08).
¹⁰²Ru(¹⁶O, ¹⁶O') E=38-42 MeV (1979Bo28), E=36-37.2 MeV (1980La01).
¹⁰²Ru(¹⁶O, ¹⁶O' γ) E=42-49 MeV (1968Mc08), E=33-38 MeV (1969He11), E=45 MeV (1976Fa02), E=44.8 MeV (1980La01).
¹⁰²Ru(⁴⁰Ar, ⁴⁰Ar') E=129 MeV (1989Lo08).

Other measurements: 1958St32, 1961St02, 1962Ec01, 1973No04, 1977Ma41.

All B(E2) values given by 1968Mc08 and 1979Bo28 are in agreement and were therefore used for the calculation of the adopted values (unless noted otherwise). Some values of 1980La01 disagree with those of 1968Mc08 and 1979Bo28.

¹⁰²Ru Levels

E(level) [†]	J ^π [‡]	T _{1/2} [#]	Comments
0	0 ⁺		
475.3	2 ⁺	18.9 ps 2	B(E2) \uparrow =0.621 4; Q=-0.63 4 B(E2) \uparrow : Weighted average of 0.640 6 (1980La01), 0.66 6 (1968Mc08), 0.617 5 (1979Bo28). Q: Weighted average of -0.68 8 (1979Bo28), -0.57 7 (1980La01) and -0.64 5 (1998Hi01). Values obtained from the angular correlation measurement for the 1103.2-keV γ -ray, the sign of the interference term in the Coulomb excitation was determined to be negative (1976Fa02). T _{1/2} : From B(E2).
943.7	0 ⁺	25 ps 4	B(E2) \uparrow =0.0198 30 (1980La01)
1103.3	2 ⁺	4.0 ps 5	B(E2): value given is B(E2)(2 ⁺ to 0 ⁺). B(E2) \uparrow =0.0154 15 T _{1/2} : calculated using γ (1103.5)-branching=0.359 13 (see adopted γ 's).
1106.6	4 ⁺	3.0 ps 5	B(E2) \uparrow : From 0.0165 19 (1968Mc08) and 0.0130 22 (1979Bo28). B(E2)(2 ⁺ to 4 ⁺)=0.33 5. T _{1/2} : From B(E2)(2 ⁺ to 4 ⁺)=0.33 5 which is a weighted average of 0.36 7 (1968Mc08) and 0.30 6 (1979Bo28).
2043.3	3 ⁻		B(E3) \uparrow =0.065 10 (1980La01)

[†] From ¹⁰²Ru(¹⁶O, ¹⁶O' γ) (1980La01).

[‡] From Adopted Levels.

[#] Unless noted otherwise, calculated by the evaluator from B(E2) values.

γ (¹⁰²Ru)

E _{γ} [†]	I _{γ} [‡]	E _i (level)	J _i ^π	E _f	J _f ^π	Comments
468.4 5		943.7	0 ⁺	475.3	2 ⁺	B(E2) \downarrow =0.099 15 (1980La01)
475.3 1		475.3	2 ⁺	0	0 ⁺	B(E2) \downarrow =0.1234 10
628.0 5	100	1103.3	2 ⁺	475.3	2 ⁺	B(E2) \downarrow =0.075 8 B(E2) \downarrow : From 0.082 12 (1968Mc08) and 0.068 10 (1979Bo28).
631.3 5		1106.6	4 ⁺	475.3	2 ⁺	B(E2) \downarrow =0.186 26 B(E2) \downarrow : From 0.201 39 (1968Mc08) and 0.169 34 (1979Bo28).
940.0 5	100	2043.3	3 ⁻	1103.3	2 ⁺	
1103.3 5	59 6	1103.3	2 ⁺	0	0 ⁺	B(E2) \downarrow =0.00308 30
1568.0 5	88 10	2043.3	3 ⁻	475.3	2 ⁺	

[†] From ¹⁰²Ru(¹⁶O, ¹⁶O' γ) (1980La01).

[‡] Branchings from each level, normalized to 100 for strongest transition (1980La01).

Coulomb excitation**Level Scheme**

Intensities: Type not specified

Legend

- $I_\gamma < 2\% \times I_\gamma^{\max}$
- $I_\gamma < 10\% \times I_\gamma^{\max}$
- $I_\gamma > 10\% \times I_\gamma^{\max}$

