^{235}U(γ,γ') 2011Kw01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 122, 205 (2014)	1-Feb-2014

Additional information 1.
J^π(^{235}U g.s.)=7/2$^-$.

2011Kw01: E=1.6-3.0 MeV circularly polarized photon beams. Scattered γ rays were detected with an array of six HPGe detectors. Measured Eγ, Iγ. Deduced integrated cross sections and widths.

Others.
^{235}U(γ,γ'): 2004Cl05.

2010Ye02: E=3.5, 4.4 MeV bremsstrahlung radiation. Measured Eγ, Iγ using two HPGe detectors. Levels found at 0.0-, 46.21-, 1733.18-, 1815-, 1828-, 1862-, 2003-, and 2010-keV.

2008Be31: E=2.2 MeV bremsstrahlung radiation. Measured Eγ, Iγ using two HPGe detectors. Levels found at 0.0-, 46.21-, 1656.2-, 1733.57-, 1815.35-, 1827.55-, 1862.32-, 2003.3-, and 2006.2-keV.

^{235}U Levels

E(level)	J^π[†]	Integrated σ (eVb)[‡]	Comments
0.0[#]	7/2$^-$[#]		
46.20[#] *5*	9/2$^-$[#]		
1656.4 *7*		3.0 *11*	gΓ_0^2/Γ=2.1 meV *8*.
1733.55 *19*		22 *4*	gΓ_0^2/Γ=17 meV *3*.
1769.3 *4*		6.4 *15*	gΓ_0^2/Γ=5.2 meV *12*.
1815.27 *18*		8.9 *11*	gΓ_0^2/Γ=7.7 meV *9*.
1827.68 *19*		5.5 *13*	gΓ_0^2/Γ=4.8 meV *12*.
1862.41 *10*		9.6 *7*	gΓ_0^2/Γ=8.7 meV *7*.
1973.8 *3*		4.6 *6*	gΓ_0^2/Γ=4.7 meV *6*.
2003.42 *17*		6.7 *12*	gΓ_0^2/Γ=7.0 meV *13*.
2005.9 *4*		4.6 *9*	gΓ_0^2/Γ=4.8 meV *9*.
2010.6 *3*		3.0 *5*	gΓ_0^2/Γ=3.2 meV *6*.
2067.1 *4*		3.0 *5*	gΓ_0^2/Γ=3.4 meV *6*.
2074.2 *3*		1.4 *3*	gΓ_0^2/Γ=1.5 meV *4*.
2086.7 *6*		1.1 *4*	gΓ_0^2/Γ=1.2 meV *4*.
2110.2 *3*		3.0 *7*	gΓ_0^2/Γ=3.5 meV *8*.
2216.1 *3*		2.8 *5*	gΓ_0^2/Γ=3.6 meV *6*.
2416.1 *3*		3.6 *6*	gΓ_0^2/Γ=5.4 meV *9*.
2555.6 *6*		2.5 *6*	gΓ_0^2/Γ=4.3 meV *10*.
2754.7 *4*		3.6 *6*	gΓ_0^2/Γ=7.2 meV *11*.

[†] Above the 46.21 level, the assignments J=(5/2,7/2,9/2) are from expected predominance of dipole excitation in a low-momentum transfer reaction (γ,γ'). No spins were assigned in 2011Kw01.
[‡] From 2011Kw01.
[#] From Adopted Levels, Gammas.

^{235}U(γ,γ') 2011Kw01 (continued)

$\gamma(^{235}U)$

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Comments
46.20	9/2$^-$	46.21 *5*		0.0	7/2$^-$	E_γ: from Adopted Levels, Gammas.
1656.4		1656.4 *7*		0.0	7/2$^-$	
1733.55		1687.0 *5*	60 *20*	46.20	9/2$^-$	
		1733.6 *2*	100	0.0	7/2$^-$	
1769.3		1769.3[#‡] *4*	100[#]	0.0	7/2$^-$	
1815.27		1769.3[#‡] *4*	62[#] *4*	46.20	9/2$^-$	
		1815.2 *2*	100	0.0	7/2$^-$	
1827.68		1782.1 *6*	45 *18*	46.20	9/2$^-$	E_γ,I_γ: unresolved from a 1782γ in ^{238}U.
		1827.6 *2*	100	0.0	7/2$^-$	
1862.41		1862.4 *1*	100	0.0	7/2$^-$	
1973.8		1973.8 *3*	100	0.0	7/2$^-$	
2003.42		1957.4 *2*	62 *13*	46.20	9/2$^-$	
		2003.0 *3*	100	0.0	7/2$^-$	
2005.9		2005.9 *4*	100	0.0	7/2$^-$	
2010.6		2010.6 *3*	100	0.0	7/2$^-$	
2067.1		2067.1 *4*	100	0.0	7/2$^-$	
2074.2		2074.2 *3*	100	0.0	7/2$^-$	
2086.7		2086.7 *6*	100	0.0	7/2$^-$	
2110.2		2063.3 *6*	51 *13*	46.20	9/2$^-$	
		2110.4 *3*	100	0.0	7/2$^-$	
2216.1		2216.1 *3*	100	0.0	7/2$^-$	
2416.1		2416.1 *3*	100	0.0	7/2$^-$	
2555.6		2555.6 *6*	100	0.0	7/2$^-$	
2754.7		2754.7 *4*	100	0.0	7/2$^-$	

[†] Corrected for recoil (0.006 keV to 0.017 keV) (2011Kw01).
[‡] Ground state or transition from 1815 to 46 level.
[#] Multiply placed with undivided intensity.

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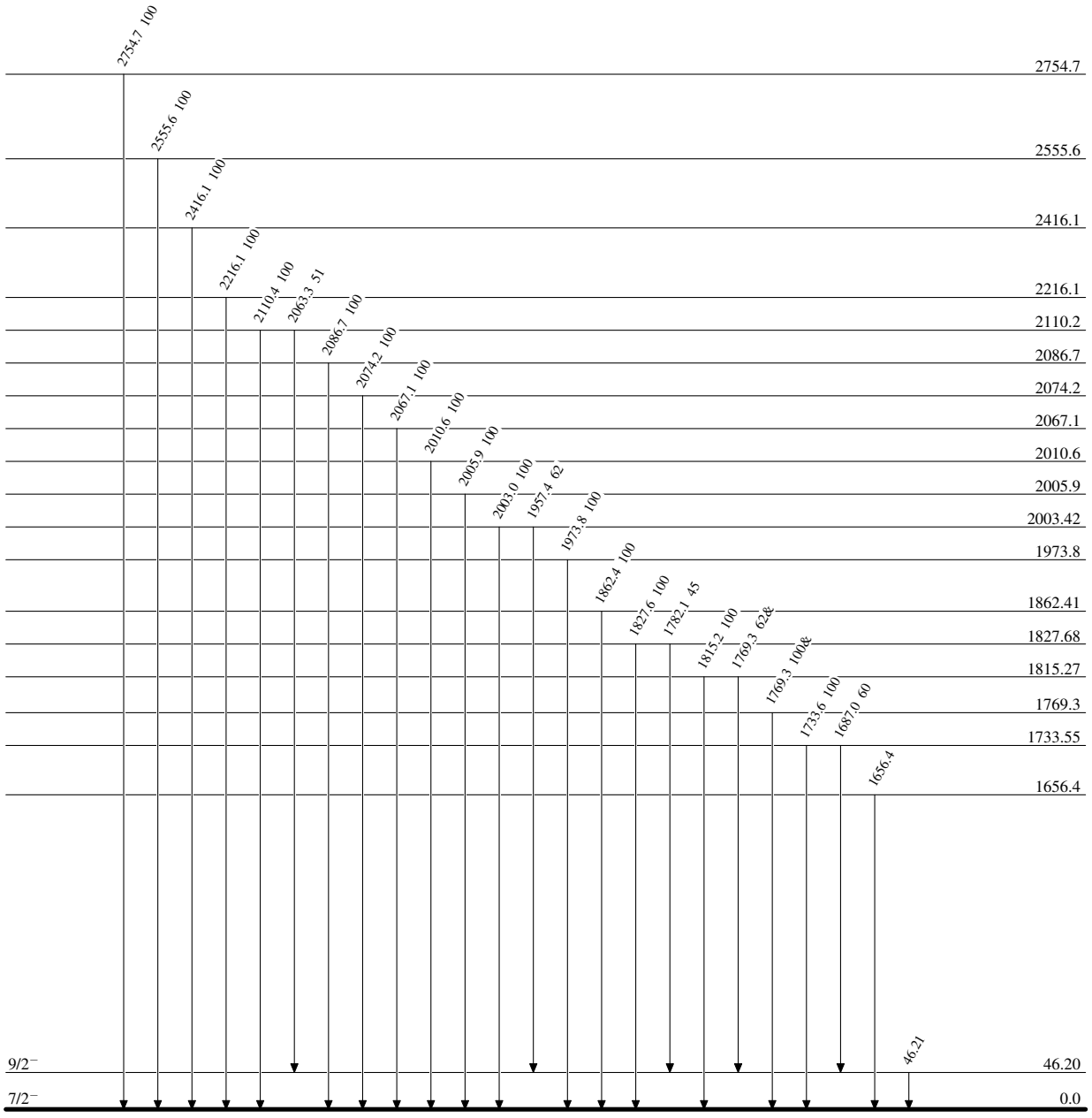
Level Scheme

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given



$^{235}_{92}U_{143}$