

$^{51}\text{V}(\gamma,\gamma')$ **1999Ka65**

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Wang Jimin and Huang Xiaolong		NDS 144, 1 (2017)	1-Mar-2016

E=6.7 MeV endpoint energy. Measured E_{γ}, I_{γ} , integrated cross section, Composite HPGe detectors with BGO shields; $\theta=94^{\circ}$ and $\theta=132^{\circ}$.

 ^{51}V Levels

E(level) [†]	J ^π #	T _{1/2} [@]	gΓ ₀ /Eγ ³	Comments
0.0				
320.0835 4	5/2 ⁻			E(level): From Adopted Levels.
929.5 [‡] 3	3/2 ⁻			
1609.6 [‡] 3	11/2 ⁻	0.143 ps 12		
1813.4 2	9/2 ⁻	0.069 ps 9	0.068 9	
3083.6 4	(5/2) ⁻	8 fs 4	0.51 12	
3377.4 2	9/2 ⁻	27 fs 4	0.48 3	
3453.9 8	9/2 ⁻	4.9 fs 14	0.39 16	
3516.6 2	9/2 ⁻	18 fs 6	0.48 3	
3562.2 3			0.116 7	
3577.1 4	(3/2 ⁻ , 5/2, 7/2 ⁻)		0.20 3	
3632.2 4	-		0.40 7	
3663.6 10	1/2 ⁻ , 3/2 ⁻		0.026 11	
3678.9 3	(3/2 ⁻)	17 fs 3	0.27 2	
3780.1 3	(5/2, 7/2) ⁺		0.33 4	
3796.6 4	(3/2, 5/2, 7/2) ⁻		0.21 3	
3919.4 6	9/2 ⁻	10 fs 4	0.28 6	
4002.6 5	(7/2 ⁻ , 9/2 ⁻)		0.19 2	
4323.0 2			0.39 2	
4450.7 2			1.10 4	
4463.8 2			0.59 3	
4558.9 5			0.13 2	
4768.5 3			2.1 8	
4775.4 3	9/2 ⁻ , 11/2 ⁻		0.65 3	
4838.3 15	(9/2, 11/2)		0.046 23	
4843.4 3	3/2 ⁻		0.65 4	
4885.3 3			0.53 4	
4936.1 6			0.09 2	
4949.5 5			0.13 2	
4977.7 5			0.12 1	
5069.8 3			0.38 2	
5080.2 4			0.19 2	
5137.5 3			0.75 4	
5208.8 4			0.13 2	
5249.0 5			0.12 2	
5292.3 5			0.10 2	
5326.2 5			0.15 2	
5400.8 4			0.34 3	
5461.4 5			0.312 5	
5478.0 5			0.21 9	
5511.9 4			0.34 3	
5590.8 4			0.55 4	
5616.7 5	(9/2, 11/2) ⁻		0.17 3	
5689.4 5			0.21 3	
5786.7 6			0.22 3	
5838.2 4			0.73 7	
5849.2 6			0.21 3	

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$^{51}\text{V}(\gamma, \gamma')$ **1999Ka65 (continued)** ^{51}V Levels (continued)

$E(\text{level})^\dagger$	$g\Gamma_0/E\gamma^3$	$E(\text{level})^\dagger$	$J^\pi\#$	$g\Gamma_0/E\gamma^3$	$E(\text{level})^\dagger$	$g\Gamma_0/E\gamma^3$
6056.5 4	0.69 6	6228.3 5		1.00 11	6402.8 6	0.36 5
6137.1 5	0.59 6	6241.0 4		0.92 8	6567.4 5	2.00 18
6172.1 7	0.22 4	6266.4 6	(11/2 ⁻)	0.72 13	6636.0 7	0.39 7
6181.0 8	0.18 4	6298.3 5		0.95 9		
6200.3 5	0.88 9	6361.7 5		0.82 8		

[†] As quoted in [1999Ka65](#).

[‡] Populated by higher-lying states.

From Adopted Levels.

@ From NRF measurements ([1999Ka65](#)).

 $\gamma(^{51}\text{V})$

$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\ddagger	E_f	J_f^π
1813.4	9/2 ⁻	1813.3 2	0.75 1	0.0	
3083.6	(5/2 ⁻)	2154.0 4	0.33 6	929.5	3/2 ⁻
		2763.4 4	0.35 6	320.0835	5/2 ⁻
		3083.5 4	0.26 6	0.0	
3377.4	9/2 ⁻	3377.3 2	0.89 6	0.0	
3453.9	9/2 ⁻	3133.7 8	0.88 3	320.0835	5/2 ⁻
		3453.8 8	0.12 3	0.0	
3516.6	9/2 ⁻	3196.4 2	0.24 2	320.0835	5/2 ⁻
		3516.5 2	0.69 2	0.0	
3562.2		3562.1 3	1	0.0	
3577.1	(3/2 ⁻ , 5/2, 7/2 ⁻)	3256.9 4	0.45 4	320.0835	5/2 ⁻
		3577.0 4	0.55 4	0.0	
3632.2	-	3312.0 4	0.75 2	320.0835	5/2 ⁻
		3632.1 4	0.25 2	0.0	
3663.6	1/2 ⁻ , 3/2 ⁻	3663.5 10	1	0.0	
3678.9	(3/2 ⁻)	3678.8 3	1	0.0	
3780.1	(5/2, 7/2) ⁺	3460.0 3	0.63 3	320.0835	5/2 ⁻
		3780.0 3	0.37 3	0.0	
3796.6	(3/2, 5/2, 7/2) ⁻	3796.5 4	0.60 3	0.0	
3919.4	9/2 ⁻	3599.3 6	0.46 6	320.0835	5/2 ⁻
		3919.3 6	0.31 6	0.0	
4002.6	(7/2 ⁻ , 9/2 ⁻)	4002.5 5	0.84 1	0.0	
4323.0		4322.9 2	1	0.0	
4450.7		4450.6 2	1	0.0	
4463.8		4143.6 2	0.21 3	320.0835	5/2 ⁻
		4463.7 2	0.79 3	0.0	
4558.9		4558.8 5	1	0.0	
4768.5		4768.4 3	0.78 1	0.0	
4775.4	9/2 ⁻ , 11/2 ⁻	4775.3 3	1	0.0	
4838.3	(9/2, 11/2)	4838.2 15	1	0.0	
4843.4	3/2 ⁻	4843.3 3	1	0.0	
4885.3		4565.1 3	0.27 2	320.0835	5/2 ⁻
		4885.2 3	0.73 2	0.0	
4936.1		4936.0 6	1	0.0	
4949.5		4949.4 5	1	0.0	
4977.7		4977.6 5	1	0.0	
5069.8		5069.7 3	1	0.0	
5080.2		5080.1 4	1	0.0	

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${}^{51}\text{V}(\gamma, \gamma')$ **1999Ka65** (continued) $\gamma({}^{51}\text{V})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\ddagger	E_f	J_f^π	$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\ddagger	E_f	J_f^π
5137.5		5137.4 3	0.94 1	0.0		5849.2		5849.1 6	1	0.0	
5208.8		5208.7 4	1	0.0		6056.5		6056.4 4	1	0.0	
5249.0		5248.9 5	1	0.0		6137.1		6137.0 5	1	0.0	
5292.3		5292.2 5	1	0.0		6172.1		6172.0 7	1	0.0	
5326.2		5326.1 5	1	0.0		6181.0		6180.9 8	1	0.0	
5400.8		5400.7 4	1	0.0		6200.3		5270.7 5	0.35 2	929.5	3/2 ⁻
5461.4		5141.2 5	0.67 3	320.0835	5/2 ⁻			6200.2 5	0.65 2	0.0	
		5461.3 5	0.33 3	0.0		6228.3		5298.7 5	0.16 3	929.5	3/2 ⁻
5478.0		5477.9 5	1	0.0				5908.1 5	0.28 3	320.0835	5/2 ⁻
5511.9		5511.8 4	1	0.0				6228.2 5	0.56 3	0.0	
5590.8		5590.7 4	1	0.0		6241.0		6240.9 4	1	0.0	
5616.7	(9/2, 11/2) ⁻	5616.6 5	1	0.0		6266.4	(11/2 ⁻)	6266.3 6	0.50 5	0.0	
5689.4		5689.3 5	1	0.0		6298.3		6298.2 5	1	0.0	
5786.7		5786.6 6	1	0.0		6361.7		6361.6 5	1	0.0	
5838.2		4908.6 4	0.17 3	929.5	3/2 ⁻	6402.8		6402.7 6	1	0.0	
		5518.0 4	0.16 3	320.0835	5/2 ⁻	6567.4		6567.3 5	1	0.0	
		5838.1 4	0.67 3	0.0		6636.0		6635.8 7	1	0.0	

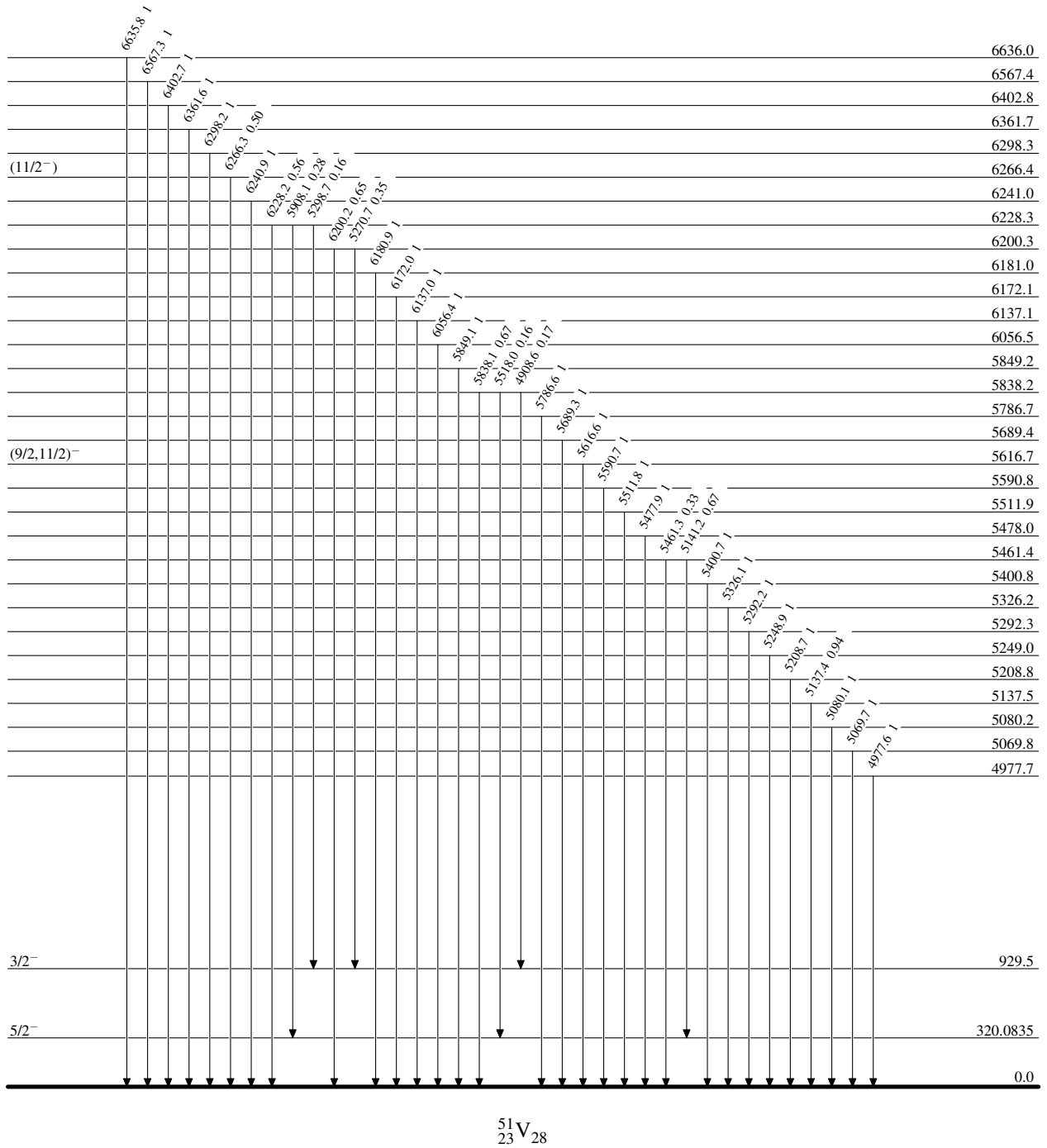
[†] Observed in [1999Ka65](#), but E_γ values not quoted. Evaluators assume the E_γ values based on the level energies given in [1999Ka65](#) and the observed decays to the g.s. and with recoil correction removed which ≈ 0.1 -keV shift in most cases.

[‡] From [1999Ka65](#).

$^{51}\text{V}(\gamma;\gamma)$ 1999Ka65

Level Scheme

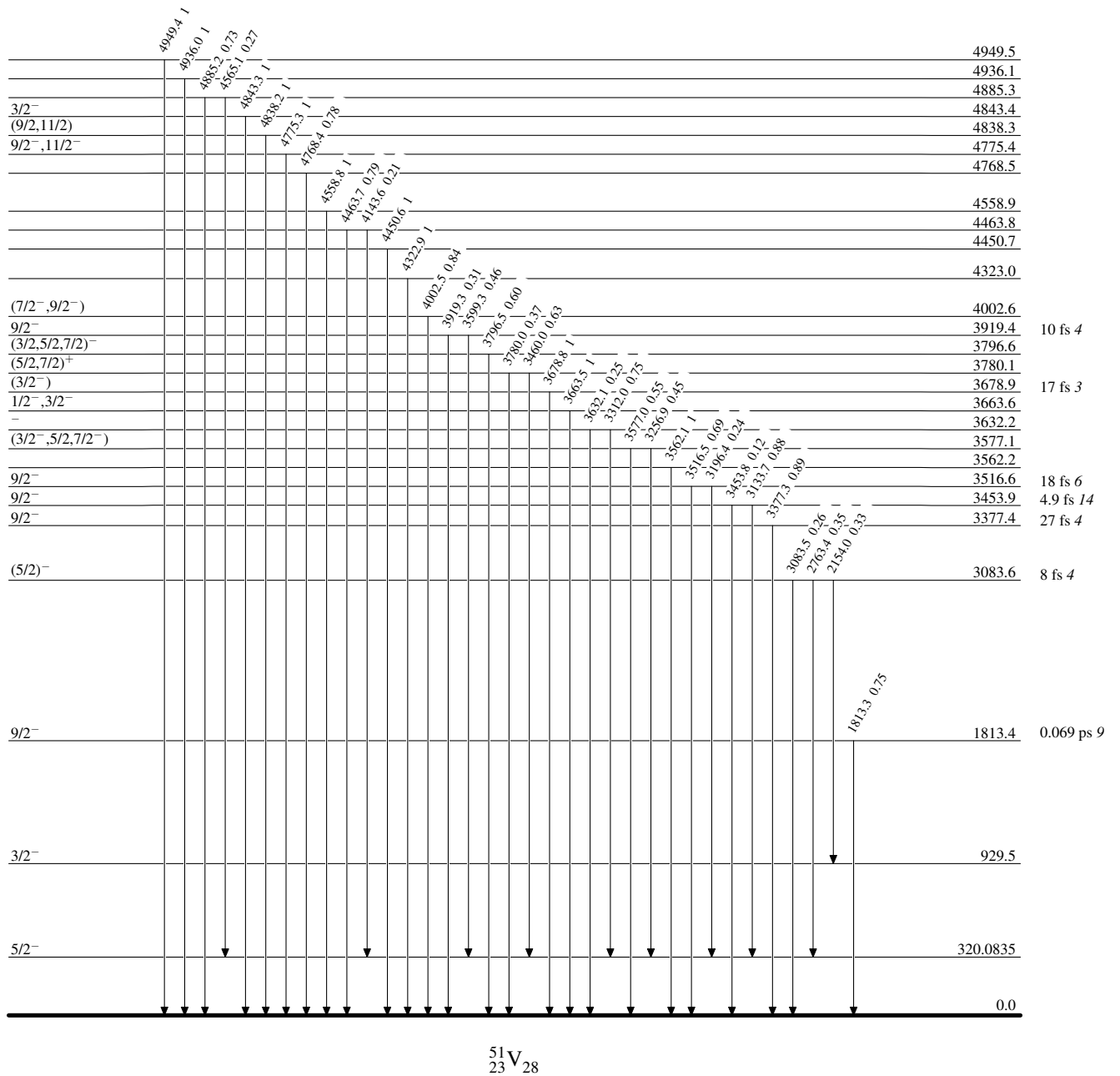
Intensities: Relative photon branching from each level



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Level Scheme (continued)

Intensities: Relative photon branching from each level

 $^{51}_{23}\text{V}_{28}$