^{51}V(p,p′γ) 1980Va08,1976Wh01

History

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

Other: 1976Wh01.
1980Va08: E=6 MeV, measured DSA, p′γ, p′γ(θ), Γ_γ.
1976Wh01: E=3.5-5 MeV, measured γ(t).
1974VaYR: E not given, measured γ(θ,H).

^{51}V Levels

All data are taken from 1980Va08, except as noted.

E(level)[†]	Jπ[#]	$T_{1/2}$[‡]	Comments
0.0	7/2−		
320.6 *4*	5/2−	184[&] ps *6*	μ=+4.4 *8* (1974VaYR). g factor=+1.76 *30* (1974VaYR). $T_{1/2}$: >2.8 ps (1980Va08).
928.7 *4*	3/2−		
1608.4 *4*	11/2−	0.35 ps *8*	
1813.8 *4*	9/2−	0.64 ps *19*	
2410.2 *4*	3/2−	19 fs *6*	
2544.7 *4*	1/2+	>0.7 ps	
2674.5 *6*	3/2+	0.36 ps *+31−13*	
2698.9 *6*	15/2−	>0.7 ps	
2790?			E(level): observed only in p′γ.
3082.8 *6*	5/2−	<2.0 fs	
3215?			E(level): observed only in p′γ.
3266.4 *22*	5/2(−)	15 fs *3*	
3285.2 *25*	5/2	139 fs *+21−14*	
3380.7 *22*	3/2−,5/2−	73 fs *+17−14*	
3383.2 *11*	(9/2,11/2)	67 fs *14*	
3396.3 *19*	13/2−	15 fs *+9−7*	
3452.3 *12*	9/2−	<2.0 fs	
3516.9 *14*	9/2−[@]	28 fs *12*	
3568.8 *24*		0.08 ps *+11−6*	
3576.3 *14*		0.06 ps *+9−4*	
3613.9 *12*		0.06 ps *+10−3*	
3631.0 *13*		12 fs *+14−3*	
3682.8 *16*	(3/2)−	45 fs *+28−14*	

[†] From 1980Va08 (column 2 of authors′ table 2).
[‡] From DSA measurements (1980Va08), except as noted.
[#] From comparison with Hauser-Feshbach predictions and decay properties, except as noted.
[@] From Adopted Levels.
[&] From γ(t) measurement (1976Wh01).

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γ(^{51}V)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Comments
320.6	5/2⁻	320.6	100	0.0	7/2⁻	
928.7	3/2⁻	608.1	15 *2*	320.6	5/2⁻	
		928.7	85 *2*	0.0	7/2⁻	
1608.4	11/2⁻	1608.4	100	0.0	7/2⁻	
1813.8	9/2⁻	205.6	1.0 *5*	1608.4	11/2⁻	
		1493.2	25 *3*	320.6	5/2⁻	
		1813.8	74 *5*	0.0	7/2⁻	
2410.2	3/2⁻	1481.5	15 *2*	928.7	3/2⁻	
		2089.6	65 *4*	320.6	5/2⁻	
		2410.2	20 *3*	0.0	7/2⁻	
2544.7	1/2⁺	1616.0	100	928.7	3/2⁻	
2674.5	3/2⁺	1745.8	100	928.7	3/2⁻	
2698.9	15/2⁻	1090.5	100	1608.4	11/2⁻	
3082.8	5/2⁻	2154.1	25 *4*	928.7	3/2⁻	
		2762.2	40 *5*	320.6	5/2⁻	
		3082.8	35 *6*	0.0	7/2⁻	
3266.4	5/2(⁻)	2337.7	41 *8*	928.7	3/2⁻	
		2945.8	59 *8*	320.6	5/2⁻	
3285.2	5/2	2356.5	44 *7*	928.7	3/2⁻	
		2964.6	56 *7*	320.6	5/2⁻	
3380.7	3/2⁻,5/2⁻	3380.7	100	0.0	7/2⁻	
3383.2	(9/2,11/2)	1569.4	13 *2*	1813.8	9/2⁻	
		1774.8	26 *3*	1608.4	11/2⁻	I_γ: Iγ might include a contribution from the 3386 level seen in (n,n′γ) and (n,γ), which decays mainly to the 1609 level. If so, the branching given for the 1775γ would be too large. The (p,p′γ) work would not be able to resolve two closely spaced 3383 levels.
		3383.2	61 *10*	0.0	7/2⁻	
3396.3	13/2⁻	1582.5	58 *6*	1813.8	9/2⁻	
		1787.9	42 *6*	1608.4	11/2⁻	
3452.3	9/2⁻	3131.7	100	320.6	5/2⁻	
3516.9	9/2⁻	3516.9	100	0.0	7/2⁻	
3568.8		3248.2	100	320.6	5/2⁻	
3576.3		3576.3	100	0.0	7/2⁻	
3613.9		2006	100	1608.4	11/2⁻	
3631.0		3310.4	76 *5*	320.6	5/2⁻	
		3631.0	24 *5*	0.0	7/2⁻	
3682.8	(3/2)⁻	3682.8	100	0.0	7/2⁻	

[†] From E(level) differences. Authors give only E(level) (1980Va08).
[‡] % photon branching from each level.

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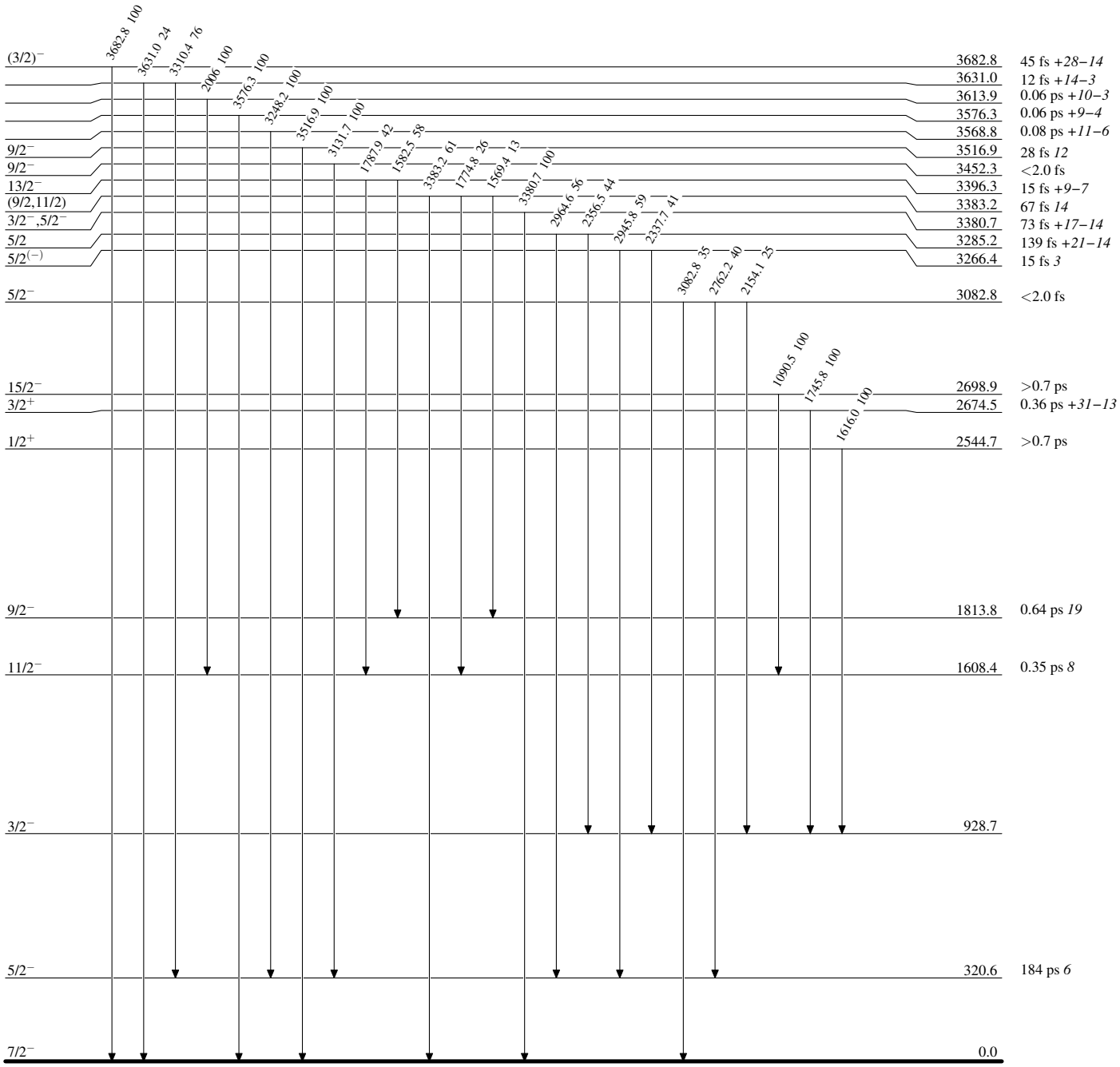
Level Scheme

Intensities: % photon branching from each level



$^{51}_{23}V_{28}$

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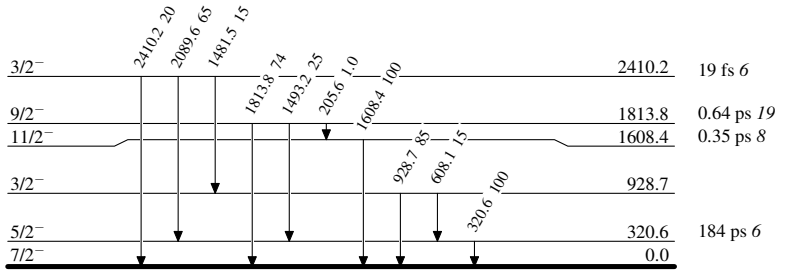
Level Scheme (continued)

Intensities: % photon branching from each level



$^{51}_{23}V_{28}$