

$^{56}\text{Fe}(\text{d},\text{p}\gamma)$ E=6 MeV 1989U101

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	M. R. Bhat	NDS 85, 415 (1998)	24-Sep-1998

Measured E_γ , I_γ , $T_{1/2}$ by centroid shift of γ -rays in coincidence with protons.

Others: 1984Pi07, 1973De44, 1972Gr03, and 1971Bu12.

 ^{57}Fe Levels

E(level) [†]	J^π [‡]	$T_{1/2}$ [#]	E(level) [†]	J^π [‡]	$T_{1/2}$ [#]
0.0	1/2 ⁻		2505.23 16	5/2 ⁺	95 fs 19
14.4129 [‡] 6	3/2 ⁻		2574.5 4	(1/2,3/2,5/2 ⁻)	15 fs 3
136.4743 [‡] 5	5/2 ⁻		2697.38 21	1/2 ⁻	6 fs 2
366.81 4	3/2 ⁻		2920.69 15	1/2 ⁻ , 3/2 ⁻	33 fs 6
706.428 [‡] 16	5/2 ⁻		3240.06 [‡] 7	1/2 ⁺	
1007.15 [‡] 4	7/2 ⁻		3428.2 6	3/2 ⁻	<3.5 fs
1198.2 4	9/2 ⁻		3982.2 11	3/2 ⁻	7 fs +12-7
1265.02 8	1/2 ⁻	82 fs 19	4138.51 21	5/2 ⁺	15 fs 8
1356.60 23	7/2 ⁻		4379.12 21	(1/2,3/2,5/2 ⁻)	3 fs +4-3
1627.06 12	3/2 ⁻	53 fs 11	4596.1 11	5/2 ⁺	5 fs +8-5
1725.20 10	3/2 ⁻	33 fs 6	4824.1 4		<10 fs
2118.6 5	5/2 ⁻	69 fs +74-35	4922.7 7	5/2 ⁺	7 fs +10-7
2455.76 9	9/2 ⁺		5362.0 10	5/2 ⁺	6 fs +15-6

[†] From a least-squares fit to the E_γ data with the five level energies from Adopted Levels held fixed.

[‡] From Adopted Levels.

[#] From centroid shift of γ -rays in coincidence with protons.

 $\gamma(^{57}\text{Fe})$

$E_i(\text{level})$	J_i^π	E_γ	I_γ [#]	E_f	J_f^π
366.81	3/2 ⁻	352.39 4	100 3	14.4129	3/2 ⁻
		366.89 7	18 3	0.0	1/2 ⁻
1198.2	9/2 ⁻	1061.7 4	100	136.4743	5/2 ⁻
1265.02	1/2 ⁻	898.17 7	100 3	366.81	3/2 ⁻
		1250.69 25	5.7 5	14.4129	3/2 ⁻
		1264.6 4	2.7 5	0.0	1/2 ⁻
1356.60	7/2 ⁻	650.8 4	100 22	706.428	5/2 ⁻
		989.9 6	32 5	366.81	3/2 ⁻
		1342.6 4	33 12	14.4129	3/2 ⁻
1627.06	3/2 ⁻	1260.2 3	49 6	366.81	3/2 ⁻
		1612.63 13	100 9	14.4129	3/2 ⁻
1725.20	3/2 ⁻	1018.84 15	27 3	706.428	5/2 ⁻
		1359.3 5	9 3	366.81	3/2 ⁻
		1725.07 12	100 7	0.0	1/2 ⁻
2118.6	5/2 ⁻	1412.1 5	100 15	706.428	5/2 ⁻
		2104.4 11	69 13	14.4129	3/2 ⁻
2455.76	9/2 ⁺	1448.59 9	100	1007.15	7/2 ⁻
2505.23	5/2 ⁺	1798.1 3	10 2	706.428	5/2 ⁻
		2138.1 3	100 4	366.81	3/2 ⁻
		2368.6 3	47 2	136.4743	5/2 ⁻
2574.5	(1/2,3/2,5/2 ⁻)	2207.6 8	38 15	366.81	3/2 ⁻
		2574.4 4	100 13	0.0	1/2 ⁻

Continued on next page (footnotes at end of table)

$^{56}\text{Fe}(\text{d},\text{p}\gamma)$ E=6 MeV 1989UI01 (continued) $\gamma(^{57}\text{Fe})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ	$I_\gamma^\#$	E_f	J_f^π
2697.38	$1/2^-$	2330.6 5	15 2	366.81	$3/2^-$
		2682.6 3	100 5	14.4129	$3/2^-$
		2697.5 4	65 3	0.0	$1/2^-$
2920.69	$1/2^-, 3/2^-$	1655.37 19	42 3	1265.02	$1/2^-$
		2554.3 5	31 3	366.81	$3/2^-$
		2906.0 4	45 4	14.4129	$3/2^-$
		2920.5 4	100 9	0.0	$1/2^-$
3428.2	$3/2^-$	2721.7 6	100	706.428	$5/2^-$
3982.2	$3/2^-$	3615.3 [†] 11	100	366.81	$3/2^-$
4138.51	$5/2^+$	1632.94 16	100 6	2505.23	$5/2^+$
		2783.8 5	81 15	1356.60	$7/2^-$
		3774.0 [‡] 8	22 5	366.81	$3/2^-$
		4002.4 [‡] 9	17 4	136.4743	$5/2^-$
4379.12	$(1/2, 3/2, 5/2^-)$	1458.09 21	22 3	2920.69	$1/2^-, 3/2^-$
		1681.3 5	12 4	2697.38	$1/2^-$
		4013.6 [‡] 4	100 9	366.81	$3/2^-$
4596.1	$5/2^+$	2870.8 11	100	1725.20	$3/2^-$
4824.1		1584.0 4	100	3240.06	$1/2^+$
4922.7	$5/2^+$	2418.3 10	100 13	2505.23	$5/2^+$
		3565.4 [†] 8	70 9	1356.60	$7/2^-$
5362.0	$5/2^+$	2856.7 9	100	2505.23	$5/2^+$

[†] Transition energy given by authors corresponds to a single-escape peak; added 511 keV to get E_γ .

[‡] Transition energy given by authors corresponds to a double-escape peak; added 1022 keV to get E_γ .

[#] Relative photon branching from each level.

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Level Scheme

Intensities: Relative photon branching from each level

