

Adopted Levels, Gammas

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Janos Timar and Zoltan Elekes, Balraj Singh		NDS 121, 143 (2014)	31-May-2014

Q(β^-)=1502 3; S(n)=6082.41 8; S(p)=9664 19; Q(α)=-3533.3 13 2012Wa38
 S(2n)=14865.8 17, S(2p)=18112 10 (2012Wa38).

¹²⁹Te produced and identified by 1939Se05 in deuteron bombardment of tellurium, measured half-lives of ground state and isomers, later reported in detail in 1940Se01. Earlier reports of T_{1/2} without specific assignment to ¹²⁹Te: 1935Am01; W. Bother and W. Gentner, Naturwiss. 25, 191 (1937); G.F. Tape and J.M. Cook, Phys. Rev. 53, 676 (1938); P. Abelson, Phys. Rev. 55, 670 (1939). Later studies of decay of ¹²⁹Te g.s. and isomer: 1953Pa25, 1963Ma20, 1963Br18, 1963Ha23, 1964De10, 1965An05, 1969Di01, 1970Bo02, 1971Ba28, 1972Em01, 1973Si14, 1974De15, 1976Ma35.
 Nuclear structure calculations (levels, J, π , spectroscopic factors): 2000Bu15, 1994Di06, 1986Ma05.

¹²⁹Te Levels

Cross Reference (XREF) Flags

A	¹²⁹ Sb β^- decay (4.366 h)	F	¹²⁸ Te(d,p),(pol d,p)	K	¹³⁰ Te(d,t),(pol d,t)
B	¹²⁹ Sb β^- decay (17.7 min)	G	¹²⁸ Te(t,d)	L	¹³⁰ Te(³ He, α)
C	¹²⁹ Te IT decay (33.6 d)	H	¹²⁸ Te(α , ³ He)	M	¹³⁰ Te(⁶⁴ Ni,X γ)
D	¹²⁸ Te(n, γ) E=thermal	I	Coulomb excitation	N	²³⁸ U(¹² C,F γ), ²⁰⁸ Pb(¹⁸ O,F γ)
E	¹²⁸ Te(n, γ),(n,n):resonances	J	¹³⁰ Te(p,d)		

E(level) [†]	J ^π [‡]	T _{1/2}	XREF	Comments
0.0	3/2 ⁺	69.6 min 3	ABCD FGHIJKL N	% β^- =100 μ =0.702 4 (1979Ge04,2014StZZ) Q=0.055 13 (1987Be36,2014StZZ) μ : NMR on oriented nuclei (1979Ge04). Other: 0.66 5 (1973Si06, low-temperature nuclear orientation following decay of ¹²⁹ Te). Q: Mossbauer detection of oriented nuclei (1987Be36). J ^π : L=2 in (t,d), (³ He, α), (p,d) and (d,p); log ft=5.8 to 5/2 ⁺ level in ¹²⁹ I forbids 1/2 ⁺ . Configuration= ν 2d _{3/2} . T _{1/2} : weighted average of 68.7 min 4 (1963Br18), 69.5 min 5 (1963Ha23), 70.2 min 3 (1970Bo22). Others: 72 min 3 (1940Se01), 67.5 min 10 (1963Ma20), 1956Gr10, 1948Wa13, 1939Ab02.
105.51 3	11/2 ⁻	33.6 d 1	ABCD FGHIJKLMN	%IT=64 7; % β^- =36 7 μ =-1.091 7 (1980Ge02,2014StZZ) Q=+0.40 3 (2006Si40,2014StZZ) Configuration= ν 1h _{11/2} . %IT,% β^- : deduced by the evaluators from the measured ratio I β (to g.s.)/I β (to 27 level in ¹²⁹ I)=0.58 18 in equilibrium between the 33.6-d and 69.6-M ¹²⁹ Te activities (1964De10,1969Di01), together with the ¹²⁹ I level scheme from 1976Ma35. μ : NMR on oriented nuclei (1980Ge02). Others: -1.10 3 (2006Si40, laser spectroscopy on resonant ionization of laser-desorbed atoms at COMPLIS facility in ISOLDE-CERN), -1.15 5 (1973Si26, low-temperature nuclear orientation following decay of ¹²⁹ Te isomer). 2014StZZ cite 1979Ge04 reference incorrectly. Q: laser spectroscopy on resonant ionization of laser-desorbed atoms at COMPLIS facility in ISOLDE-CERN (2006Si40). Charge radius measurement: 2006Si40. J ^π : L=5 in (t,d), (³ He, α), (p,d) and (d,p); M4 γ to 3/2 ⁺ . T _{1/2} : weighted average of 33.3 d 1 (1953Pa25), 33.8 d 3 (1963Ha23), 34.1 d 2 (1965An05,1972Em01), 33.2 d 5 (1970Bo22), 33.52 d 12 (1971Ba28).

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Adopted Levels, Gammas (continued)

^{129}Te Levels (continued)				
E(level) [†]	J ^π [‡]	XREF	Comments	
Others: 32 d 2 (1940Se01), 1948Wa13, 1951Co34, 1956Gr10, 1963Ma20, 1965Br34.				
180.356 16	1/2 ⁺	A D FG IJK	Configuration= $\nu 3s_{1/2}$. J ^π : L=0 in (t,d), (d,p) and (d,t).	
250 5		J		
360 5	(5/2 ⁺ , 3/2 ⁺)	J L	XREF: L(372). J ^π : L=(2) in ($^3\text{He}, \alpha$). E(level): from (p,d).	
455 5	7/2 ⁺ , 9/2 ⁺	J L	J ^π : L=4 in (p,d), ($^3\text{He}, \alpha$). E(level): from (p,d).	
464.659 25	9/2 ⁽⁻⁾	A D I	J ^π : γ to 11/2 ⁻ ; 359 $\gamma(\theta)$ does not allow 7/2.	
544.585 20	5/2 ⁺	A D FGHIJK	J ^π : L=2 in (t,d); L=2, L+1/2 in (pol d,p) and (pol d,t).	
633.801 24	5/2 ⁺	A D FG I	J ^π : L=2 in (t,d); log ft=8.6 from 7/2 ⁺ .	
759.84 3	7/2 ⁻	A D FG I K	J ^π : L(d,p)=3; L+1/2 from (pol d,p).	
773.23 3	1/2 ⁺	D F J L	XREF: L(783). J ^π : L=0 in (d,p).	
812.991 19	7/2 ⁺	A D FG IJK N	XREF: J(819). J ^π : L=4 and analyzing power in (pol d,p).	
865.4 5	(7/2 ⁺)	F K	J ^π : L=(4) and analyzing power in (pol d,p) and (pol d,t).	
865.51 11	15/2 ⁽⁻⁾	B I MN	J ^π : $\Delta J=2$, Q G to 11/2 ⁻ ; systematics of nuclei in this mass region.	
874.945 22	3/2 ⁺	A D F IJKL	J ^π : L=2 in ($^3\text{He}, \alpha$) and (d,p); $\gamma(\theta)$ in ^{129}Sb g.s. decay.	
878 5	5/2 ⁻ , 7/2 ⁻	G	J ^π : L=3 in (t,d).	
966.902 22	5/2 ⁺	A D FG JKL	J ^π : L=2 in (t,d); L=2 and analyzing power in (pol d,p).	
1155 5	1/2 ⁺	G	J ^π : L=0 in (t,d).	
1162.25 5	(7/2 ⁻)	D F	J ^π : L(d,p)=3; γ to 11/2 ⁻ .	
1211.8 8	7/2 ⁺	FG K	J ^π : L=4 and analyzing power in (pol d,p).	
1217 5	3/2 ⁺ , 5/2 ⁺	J	J ^π : L=2 in (p,d).	
1221.28 3	(5/2 ⁻ , 7/2 ⁺)	D	J ^π : gammas to 3/2 ⁺ and 9/2 ⁻ .	
1227.98 3	(7/2 ⁻ , 9/2 ⁺)	A	J ^π : gammas to 5/2 ⁺ and 11/2 ⁻ ; 5/2 ruled out from $\gamma(\theta)$ of 500 γ from 1727 level. 9/2 from $\gamma(\theta)$ of 683 γ . 525 $\gamma(\theta)$ from 1754 level fits 7/2 somewhat better.	
1233.81 9	3/2 ⁺ , 5/2 ⁺	D F	J ^π : L(d,p)=2.	
1281.64 3	5/2 ⁺	A D FG JK	XREF: J(1290). J ^π : L=2 and analyzing power in (pol d,p); also $\gamma(\theta)$ in ^{129}Sb g.s. decay.	
1303.41 6	1/2 ⁺	D F K	J ^π : L(d,p)=0.	
1318.30 3	7/2 ⁺	A D FG KL	XREF: F(1319.0)G(1306)L(1280). J ^π : L=4 and analyzing power in (d,p).	
1384.98 5	(3/2 ⁻ , 5/2, 7/2 ⁺)	A	J ^π : γ to 3/2 ⁺ ; log ft=8.6 from 7/2 ⁺ .	
1405.66 5	(5/2, 7/2, 9/2 ⁺)	A	J ^π : gammas to 5/2 ⁺ and 7/2 ⁺ ; log ft=8.6 from 7/2 ⁺ .	
1421.35 9	5/2 ⁺	D FG JK	XREF: F(1419.4)G(1435)J(1430). J ^π : L=2 and analyzing power in (pol d,p).	
1460.90 5	(5/2, 7/2, 9/2 ⁺)	A	J ^π : gammas to 5/2 ⁺ and 7/2 ⁺ ; log ft=8.3 from 7/2 ⁺ .	
1481.21 5	(3/2 ⁻ , 5/2, 7/2 ⁺)	A	J ^π : γ to 3/2 ⁺ ; log ft=8.0 from 7/2 ⁺ .	
1483.37 4	7/2 ⁺	A FG JK	XREF: J(1490). J ^π : L=4 and analyzing power in (pol d,p).	
1515.7 10	(11/2 ⁺)		N	
1523.29 13	19/2 ⁽⁻⁾	B	MN	J ^π : $\Delta J=2$ γ , Q to 15/2 ⁽⁻⁾ ; systematics in this mass region.
1545.09 9	7/2 ⁺ , 9/2 ⁺	A	L	XREF: L(1535). J ^π : L($^3\text{He}, \alpha$)=4; γ to 5/2 ⁺ .
1559.86 4	(3/2 ⁻)	D FG		J ^π : L(d,p)=L(t,d)=1; γ to 7/2 ⁻ .
1581.97 4	7/2 ⁺	A F K		J ^π : L=4 and analyzing power in (pol d,p).
1600.08 3	5/2 ⁺	A D F JK		J ^π : L=2 and analyzing power in (pol d,p); $\gamma(\theta)$ in ^{129}Sb g.s. decay; also L(p,d)=2.
1632.57 3	7/2 ⁻ , 9/2 ⁺	A		J ^π : $\gamma(\theta)$; 9/2 ⁻ ruled out by 405 $\gamma(\theta)$; γ to 9/2 ⁻ ; log ft=6.7 from 7/2 ⁺ .
1654 5	1/2 ⁺	G		J ^π : L(t,d)=0.

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Adopted Levels, Gammas (continued)

^{129}Te Levels (continued)

E(level) [†]	J ^π [‡]	T _{1/2}	XREF	Comments
1654.31 13	(17/2 ⁻ ,19/2 ⁻)		B MN	J ^π : gammas to (15/2 ⁻) and (19/2 ⁻); possible configuration= $\pi g_{7/2}^2 \otimes \nu h_{11/2}$.
1656.17 4	5/2 ⁺		A D F K	XREF: F(1655.7). J ^π : L=2 and analyzing power in (pol d,p).
1672 10	3/2 ⁺ ,5/2 ⁺		J	J ^π : L(p,d)=2.
1723.5 5	5/2 ⁺		K	J ^π : L=2 and analyzing power in (d,t).
1727.1 10	(15/2 ⁺)		N	
1727.972 23	(9/2 ⁺)		A	J ^π : log ft=5.6 from 7/2 ⁺ ; $\gamma(\theta)$; γ to 11/2 ⁻ .
1739.7 5	3/2 ⁺ ,5/2 ⁺		K	J ^π : L(d,t)=2.
1751.11 13	(5/2,7/2,9/2)		A	J ^π : log ft=6.8 from 7/2 ⁺ .
1752.32 7	(5/2) ⁻		D F	XREF: F(1752.7). J ^π : L(d,p)=3; γ to 3/2 ⁺ .
1753.35 5	5/2 ⁺		A G	J ^π : L(t,d)=2; log ft=6.6 from 7/2 ⁺ .
1754.2 5	7/2 ⁺		K	J ^π : L=4 and analyzing power in (pol d,t).
1762.45 4	(5/2 ⁺)		A	J ^π : log ft=8.1 from 7/2 ⁺ ; γ to 1/2 ⁺ .
1777.8 6	(5/2,7/2,9/2)		A g	J ^π : log ft=8.2 from 7/2 ⁺ ; γ to 5/2 ⁺ .
1779.79 5	5/2 ⁺		A Fg JK	XREF: J(1797). J ^π : L=2 and analyzing power in (pol d,p). L(t,d)=(2).
1812.8 6	7/2 ⁺		F K	E(level),J ^π : L=4 and analyzing power in (pol d,p).
1839.2 6	(1/2 ⁺)		D FG	J ^π : L(t,d)=(0). E(level): from (d,p).
1843.6 5	-		K	E(level),J ^π : doublet; L(d,t)=1+5 suggests 1/2 ⁻ ,3/2 ⁻ for one component and 9/2 ⁻ ,11/2 ⁻ for the other.
1843.67 3	(9/2) ⁺		A L	J ^π : L(³ He, α)=4; γ to 11/2 ⁻ ; $\gamma(\theta)$.
1851.55 6	5/2 ⁻ ,7/2 ⁻		D F	XREF: F(1852.9). J ^π : L(d,p)=3.
1867.65 6	(5/2,7/2 ⁺)		A	J ^π : log ft=7.6 from 7/2 ⁺ ; γ to 3/2 ⁺ .
1868.87 12	5/2 ⁺		D K	XREF: K(1869.9). J ^π : L=2 and analyzing power in (pol d,t).
1869.6 5	5/2 ⁻ ,7/2 ⁻		FG	J ^π : L(d,p)=3.
1870.57 3	5/2 ⁺		A	J ^π : log ft=6.7 from 7/2 ⁺ ; $\gamma(\theta)$; γ to 1/2 ⁺ .
1886.64 14	(21/2 ⁻)		MN	J ^π : $\Delta J=1$, d γ to 19/2 ⁽⁻⁾ ; γ to (17/2 ⁻).
1887.5 6	(3/2 ⁺ ,5/2 ⁺)		JK	J ^π : L(d,t)=(1,2); L(p,d)=(4+2).
1921.26 6	(5/2) ⁺		A KL	J ^π : L(³ He, α)=2; log ft=7.5 from 7/2 ⁺ . L=(2) analyzing power in (pol d,t) suggests (3/2 ⁺).
1939.52 4	(5/2,7/2,9/2)		A	J ^π : log ft=7.2 from 7/2 ⁺ .
1957.06 15	(21/2 ⁻)		B MN	J ^π : $\Delta J=1$, dipole γ to 19/2 ⁽⁻⁾ ; log ft=6.1 from (19/2 ⁻); possible configuration= $\pi g_{7/2} d_{5/2} \otimes \nu h_{11/2}$ (1998Zh09). J ^π : L(d,p)=(3).
1992.4 5	(5/2 ⁻ ,7/2 ⁻)		F	J ^π : L=1 and analyzing power in (pol d,p).
2040.20 4	3/2 ⁻		D FG K	J ^π : L(d,t)=0.
2059.3 10	1/2 ⁺		K	J ^π : L(d,t)=0.
2071.400 22	5/2 ⁺		A	J ^π : $\gamma(\theta)$; log ft=5.5 from 7/2 ⁺ ; γ to 3/2 ⁺ , weak γ to 1/2 ⁺ .
2071.5 10	3/2 ⁺		K	J ^π : L=2 and analyzing power in (POL d,t).
2072.4 5	7/2 ⁻		FG	J ^π : L=3 and analyzing power in (pol d,p).
2086.10 3	(7/2 ⁺)		A JK	XREF: J(2085)K(2089.9). J ^π : log ft=6.0 from 7/2 ⁺ ; γ to 3/2 ⁺ ; L(d,t)=(4).
2106.6 5	7/2 ⁻		FGH K	J ^π : L=3 and analyzing power in (pol d,p) and (pol d,t).
2113.9 10	1/2 ⁺		K	J ^π : L(d,t)=0.
2114.58 3	5/2 ⁺		A	J ^π : log ft=5.4 from 7/2 ⁺ ; 7/2 ⁺ ruled out by 2115 $\gamma(\theta)$; γ to 3/2 ⁺ .
2131 5	(1/2 ⁺)		G J	J ^π : L(t,d)=(0).
2131.20 5	7/2 ⁻		A F	XREF: F(2132.7). J ^π : L=3 and analyzing power in (pol d,p).
2133.0 10	9/2 ⁻ ,11/2 ⁻		K	J ^π : L(d,t)=5.
2134.86 5	(5/2 ⁻ ,7/2 ⁺)		A	J ^π : log ft=6.5 from 7/2 ⁺ ; gammas to 3/2 ⁺ and 9/2 ⁻ .
2137.83 17	(23/2 ⁺)	33 ns 3	MN	T _{1/2} : $\gamma(t)$ in (⁶⁴ Ni,X γ). J ^π : $\Delta J=1$, dipole γ to (21/2 ⁻); level systematics of ¹²⁸ Te and

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Adopted Levels, Gammas (continued) ^{129}Te Levels (continued)

E(level) [†]	J ^π [‡]	XREF	Comments
2141.8 10	7/2 ⁺	JK	^{130}Te (1998Zh09). J ^π : L=4 and analyzing power in (pol d,t).
2182.6 10	3/2 ⁺	KL	E(level), J ^π : L=2 and analyzing power in (pol d,t).
2197.7 11	(5/2 ⁻ , 7/2 ⁻)	K	J ^π : L(d,t)=(3).
2220.9 4	(3/2, 5/2 ⁺)	D	J ^π : gammas to 1/2 ⁺ , 5/2 ⁺ and 5/2 ⁻ ; weak primary γ from 1/2 ⁺ .
2221.3 5	7/2 ⁻	FGH JK	J ^π : L=3 and analyzing power in (pol d,p); L(p,d)=(0+2) is inconsistent.
2232.2 5	5/2 ⁻ , 7/2 ⁻	F	J ^π : L(d,p)=3.
2255.1 15	1/2 ⁺	K	J ^π : L(d,t)=0.
2265.29 4	(5/2 ⁺ , 7/2 ⁺)	A	J ^π : log ft=4.8 from 7/2 ⁺ ; γ to 3/2 ⁺ .
2267.20 4	3/2 ⁻	D FG K	XREF: F(2267.6)G(2261)K(2266.6). J ^π : L=1 and analyzing power in (pol d,p). L(d,t)=(2) is inconsistent.
2278.5 15	(7/2) ⁺	JK	J ^π : L=4 and analyzing power in (pol d,t); L(p,d)=(0+2) is inconsistent.
2303.7 16	9/2 ⁻ , 11/2 ⁻	K	J ^π : L(d,t)=5.
2309.7 15	1/2 ⁺	G K	J ^π : L(d,t)=0.
2312.2 5	7/2 ⁻	F	J ^π : L=3 and analyzing power in (pol d,p).
2316.6 15	(11/2) ⁻	K	J ^π : L=5 and analyzing power in (pol d,t).
2353.8 15	1/2 ⁺	K	J ^π : L(d,t)=0.
2360.472 21	3/2 ⁻	D FG	J ^π : L=1 and analyzing power in (pol d,p).
2362.6 16	(1/2) ⁻	K	J ^π : L=1 and analyzing power in (pol d,t).
2370.5 16	(3/2) ⁺	JKL	J ^π : L=2 and analyzing power in (pol d,t).
2377.4 16	(1/2) ⁻	K	J ^π : L=1 and analyzing power in (pol d,t).
2379.555 23	3/2 ⁻	D FG	J ^π : L=1 and analyzing power in (pol d,p).
2416 2	5/2 ⁺	JK	XREF: J(2395). J ^π : L=2 and analyzing power in (pol d,t). E(level): 2395 in (p,d) may correspond to 2377.4, 2379.5 and/or 2379.5 levels, but more likely to 2416 from level populations in similar (d,t) and (p,d) reactions, and energy matching.
2427.2 5	7/2 ⁻	F	J ^π : L=3 and analyzing power in (pol d,p).
2432 2	1/2 ⁺	K	J ^π : L(d,t)=0.
2454 2	7/2 ⁺ , 9/2 ⁺	JK	J ^π : L(d,t)=4.
2462.5 5	7/2 ⁻	F	J ^π : L=3 and analyzing power in (pol d,p).
2465 2	(3/2 ⁺ , 5/2 ⁺)	K	J ^π : L(d,t)=(2).
2477 2	(3/2 ⁺ , 5/2 ⁺)	K	J ^π : L(d,t)=(2).
2482 2	7/2 ⁺ , 9/2 ⁺	K	J ^π : L(d,t)=4.
2491 5	1/2 ⁺	G	J ^π : L(t,d)=0.
2493.06 11	3/2 ⁻	D F	XREF: F(2491.6). J ^π : L=1 and analyzing power in (pol d,p).
2507 3	(3/2) ⁺	K	J ^π : L=2 and analyzing power in (pol d,t).
2507.1 5	(5/2 ⁻ , 7/2 ⁻)	F	J ^π : L(d,p)=(3).
2510.79 16	23/2 ⁽⁻⁾	MN	J ^π : $\Delta J=2$, Q γ to 19/2 ⁽⁻⁾ ; possible configuration = $\pi g_{7/2}^2 \otimes \nu h_{11/2}$.
2511.0 5	(5/2 ⁻ , 7/2 ⁻)	F	J ^π : L(d,p)=(3).
2515 25	9/2 ⁻ , 11/2 ⁻	L	J ^π : L($^3\text{He}, \alpha$)=5.
2519 3	3/2 ⁺	K	J ^π : L=2 and analyzing power in (pol d,t).
2524.76 3	1/2 ⁻	D F J	XREF: F(2524.4). J ^π : L=1 and analyzing power in (pol d,p). L(p,d)=(2) is inconsistent.
2556 3	5/2 ⁺	K	J ^π : L=2 and analyzing power in (pol d,t).
2581.67 8	3/2 ⁻	D F	XREF: F(2581.1). J ^π : L=1 and analyzing power in (pol d,p).
2584 3	(3/2) ⁺	K	J ^π : L=2 and analyzing power in (pol d,t).
2612.4 5	(5/2 ⁻ , 7/2 ⁻)	F	J ^π : L(d,p)=(3).
2616 4	(3/2 ⁺ , 5/2 ⁺)	JK	J ^π : L(d,t)=(2).
2632 4	5/2 ⁺	K	J ^π : L=2 and analyzing power in (pol d,t).
2641.3 6	(5/2 ⁻ , 7/2 ⁻)	F	J ^π : L(d,p)=(3).
2671 4	(3/2 ⁺ , 5/2 ⁺)	K	J ^π : L(d,t)=(2).
2681 4	9/2 ⁺	K	J ^π : L=4 and analyzing power in (pol d,t).

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Adopted Levels, Gammas (continued)

^{129}Te Levels (continued)

E(level) [†]	J ^π [‡]	XREF	Comments
2705.130 21	1/2 ⁻	D F K	XREF: F(2705.8)K(2702). J ^π : L=1 and analyzing power in (pol d,p) and (pol d,t).
2711 4	5/2 ⁺	K	J ^π : L=2 and analyzing power in (pol d,t).
2728.2 5	1/2 ⁻ , 3/2 ⁻	F	J ^π : L(d,p)=1.
2736.6 5	(3/2 ⁻)	F	J ^π : L=(1) and analyzing power in (pol d,p).
2747 4	3/2 ⁺ , 5/2 ⁺	JKL	J ^π : L(d,t)=2; L(p,d) is inconsistent.
2757 4	(3/2 ⁺)	K	J ^π : L=2 and analyzing power in (pol d,t).
2765.3 5	(5/2 ⁻ , 7/2 ⁻)	F	J ^π : L(d,p)=(3).
2767 4	(5/2 ⁺)	K	J ^π : L=(2) and analyzing power in (pol d,t).
2811.7 5	(9/2 ⁻ , 11/2 ⁻)	F	J ^π : L(d,p)=(5).
2819.5 5	(5/2 ⁻ , 7/2 ⁻)	F	J ^π : L(d,p)=(3).
2824 5	7/2 ⁺ , 9/2 ⁺	K	J ^π : L(d,t)=4.
2831 5	(3/2 ⁺)	K	J ^π : L=(2) and analyzing power in (pol d,t).
2835.2 5	(5/2 ⁻ , 7/2 ⁻)	F	J ^π : L(d,p)=(3).
2840.3 6	27/2 ⁽⁻⁾	N	J ^π : ΔJ=2, (E2) γ to 2/2 ⁽⁻⁾ .
2844 5	3/2 ⁺ , 5/2 ⁺	K	J ^π : L(d,t)=2.
2853.7 5	(5/2 ⁻ , 7/2 ⁻)	F	J ^π : L(d,p)=(3).
2856 5	5/2 ⁺	K	J ^π : L=2 and analyzing power in (pol d,t).
2859.5 5	(5/2 ⁻ , 7/2 ⁻)	F	J ^π : L(d,p)=(3).
2871.2 5	(5/2 ⁻)	F	J ^π : L=(3) and analyzing power in (pol d,p).
2885.8 8		N	
2889.8 5	(5/2 ⁻ , 7/2 ⁻)	F	J ^π : L(d,p)=(3).
2891 15	(3/2 to 9/2) ⁽⁺⁾	J	J ^π : L(p,d)=(4+2).
2899.9 5	9/2 ⁻ , 11/2 ⁻	F	J ^π : L(d,p)=5.
2919.6 5	(5/2 ⁻)	F	J ^π : L=3 and analyzing power in (pol d,p).
2971.3 5	7/2 ⁻	F	J ^π : L=3 and analyzing power in (pol d,p).
2979.4 5	5/2 ⁻	F	J ^π : L=3 and analyzing power in (pol d,p).
2980 25	7/2 ⁺ , 9/2 ⁺	L	J ^π : L(³ He,α)=4.
2999.6 6		F	
3009.4 5		F	
3023.8 6		F	
3029.1 5		F	
3046.3 5		F	
3051.6 4	(27/2 ⁺)	MN	J ^π : ΔJ=2, Q γ to (23/2 ⁺).
3056.4 5		F	
3070.4 5		F	
3077 15	(3/2 ⁺ , 5/2 ⁺)	h J	J ^π : L(p,d)=(2).
3089.3 5		F h	
3102.8 5		F	
3128.5 6		F	
3133.5 5		F	
3150.7 5		F	
3163.3 6		F	
3182.0 5		F	
3202.3 6		F	
3211.8 6		F	
3230.5 5		F	
3240 15	(3/2 to 9/2) ⁽⁺⁾	J	J ^π : L(p,d)=(4+2).
3246.1 5		F	
3253.1 5		F	
3260.9 5		F	
3277.1 7		F	
3281.6 5		F	
3295.7 7		F j	
3306.4 5		F j	
3321.4 5		F j	

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Adopted Levels, Gammas (continued) ^{129}Te Levels (continued)

E(level) [†]	J^{π} [‡]	XREF	Comments
3326.6 5		F	
3350.3 5		F	
3355.46 10	3/2 ⁻	D F	XREF: F(3355.6). J^{π} : L=1 and analyzing power in (pol d,p).
3361.5 5		F	
3364.6 5		F	
3371.6 5		F	
3379.3 5		F	
3384.8 5		F j	
3389.8 6		F j	
3405.8 5		F j	
3414.3 5		F	
3419.9 5		F	
3429.8 3	(3/2) ⁻	D F	XREF: F(3428.9). J^{π} : L(d,p)=1; γ to 7/2 ⁻ .
3441.0 5		F j	
3452.8 5		F j	
3461.1 5		F j	
3474.8 5		F	
3479.1 5		F	
3489.6 5	1/2 ⁻	F	J^{π} : L=1 and analyzing power in (pol d,p).
3500 25	7/2 ⁺ , 9/2 ⁺	L	J^{π} : L(³ He, α)=4.
3502.58 8	(3/2) ⁻	D F	XREF: F(3503.4). J^{π} : L=(1) and analyzing power in (pol d,p); gammas to 1/2 ⁺ and 7/2 ⁻ .
3512.0 5		F j	
3512.9 7	(29/2 ⁻)	N	J^{π} : $\Delta J=1$, dipole γ to 27/2 ⁽⁻⁾ .
3524.2 5		F j	
3528.28 10	(1/2 ⁻)	D F j	XREF: F(3527.7). J^{π} : L=(1) and analyzing power in (pol d,p).
3546.91 9	(3/2 ⁻)	D F	XREF: F(3545.8). J^{π} : L=(1) and analyzing power in (pol d,p).
3559.3 5		F	
3564.51 9	1/2 ⁻	D F	XREF: F(3565.0). J^{π} : L=1 and analyzing power in (pol d,p).
3569.2 5		F	
3579.7 5		F	
3587.4 5		F	
3593.7 5		F	
3600.5 5	(3/2) ⁻	F	J^{π} : L=1 and analyzing power in (pol d,p).
3615.2 5		F	
3617.0 9	(31/2 ⁻)	N	J^{π} : γ to 27/2 ⁽⁻⁾ .
3622.9 6		F	
3628.7 6		F	
3634.2 5		F	
3636.7 7	(29/2 ⁺)	N	J^{π} : γ to (27/2 ⁺).
3638.38 7	1/2 ⁻	D F	XREF: F(3638.4). J^{π} : L=1 and analyzing power in (pol d,p).
3643.3 5		F	
3648.77 11	1/2 ⁻	D F	XREF: F(3649.0). J^{π} : L=1 and analyzing power in (pol d,p).
3655.1 5		F H	
3666.4 5		F	
3671.5 5	3/2 ⁻	F	J^{π} : L=1 and analyzing power in (pol d,p).
3677.9 5		F	
3695.7 5		F	
3707.7 5	1/2 ⁻	F	J^{π} : L=1 and analyzing power in (pol d,p).

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Adopted Levels, Gammas (continued) ^{129}Te Levels (continued)

E(level) [†]	J ^π [‡]	XREF	Comments
3713.8 5		F	
3729.3 5		F	
3737.1 5		F	
3744.9 5	3/2 ⁻	F	J ^π : L=1 and analyzing power in (pol d,p).
3752.3 5		F	
3765.0 5	(3/2) ⁻	F	J ^π : L=1 and analyzing power in (pol d,p).
3769.9 5		F	
3777.5 5		F	
3784.6 5		F	
3792.40 4	3/2 ⁻	D F H	XREF: F(3792.6). J ^π : L=1 and analyzing power in (pol d,p).
3800.9 5		F	
3811.7 6		F	
3818.9 5		F	
3826.7 5		F	
3837.7 5		F	
3852.71 12	3/2 ⁻	D F	XREF: F(3851.9). J ^π : L=1 and analyzing power in (pol d,p).
3859.6 5		F	
3865.36 7	3/2 ⁻	D F	XREF: F(3865.7). J ^π : L=1 and analyzing power in (pol d,p).
3873.4 5		F	
3884.5 5		F	
3890.2 5		F	
3899.3 5	3/2 ⁻	F	J ^π : L=1 and analyzing power in (pol d,p).
3906.9 5		F	
3917.0 6		F	
3921.6 5		F	
3929.4 5		F	
3938.5 5		F	
3944.2 5		F	
3948.1 6	(3/2) ⁻	F	J ^π : L=(1) and analyzing power in (pol d,p).
3952.8 5		F	
3962.3 5		F	
3969.4 6	(3/2) ⁻	F	J ^π : L=(1) and analyzing power in (pol d,p).
3974.3 5	3/2 ⁻	F	J ^π : L=1 and analyzing power1 in (pol d,p).
3986.8 6		F	
3993.7 5		F	
3997.6 5		F	
4002.4 6		F	
4005.8 6		F	
4017.1 5		F	
4024.9 5		F	
4032.59 16	3/2 ⁻	D F	XREF: F(4032.5). J ^π : L=1 and analyzing power in (pol d,p).
4033.1 9	(31/2 ⁺)	N	J ^π : γ to (29/2 ⁺).
4043.3 5		F	
4045.8 5		F	
4053.7 5		F	
4059.1 5	(1/2) ⁻	F	J ^π : L=1 and analyzing power in (pol d,p).
4067.8 5	3/2 ⁻	F	J ^π : L=1 and analyzing power in (pol d,p).
4072.2 5		F	
4082.2 5	3/2 ⁻	F	J ^π : L=1 and analyzing power in (pol d,p).
4087.54 11	3/2 ⁻	D F	XREF: F(4086.8). J ^π : L=1 and analyzing power in (pol d,p).
4092.5 6		F	

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Adopted Levels, Gammas (continued) ^{129}Te Levels (continued)

E(level) [†]	J ^π [‡]	XREF	Comments
4101.8 6		F	
4106.1 6		F	
4110.4 6		F	
4121.18 8	1/2 ⁻	D F H	XREF: F(4122.1). J ^π : L=1 and analyzing power in (pol d,p).
4129.0 5		F	
4133.50 9	3/2 ⁻	D F	XREF: F(4132.8). J ^π : L=1 and analyzing power in (pol d,p).
4150.2 6		F	
4155.6 9	(31/2 ⁺)	N	J ^π : γ to (27/2 ⁺).
4161.1 7		F	
4166.2 5		F	
4175.3 3	(1/2) ⁻	D F	XREF: F(4175.1). J ^π : L=1 and analyzing power in (pol d,p).
4180.68 18	(3/2) ⁻	D F	XREF: F(4181.2). J ^π : L=1 and analyzing power in (pol d,p).
4200.8 5		F	
4204.3 3	1/2 ⁻	D F	XREF: F(4205.9). J ^π : L=1 and analyzing power in (d,p).
4212.4 5		F	
4220.46 16	3/2 ⁻	D F	XREF: F(4220.1). J ^π : L=1 and analyzing power in (pol d,p).
4229.1 5		F	
4240.5 3	3/2 ⁻	D F	XREF: F(4239.8). J ^π : L=1 and analyzing power in (pol d,p).
4251.2 6		F	E(level): from (d,p).
4259.3 6		F	
4267.4 5	(1/2) ⁻	D F	XREF: F(4267.4).
4277.02 11	3/2 ⁻	D F	E(level),J ^π : L=1 and analyzing power in (pol d,p). XREF: F(4277.4). J ^π : L=1 and analyzing power in (pol d,p).
4291.2 6		F	
4297.80 22	1/2 ⁻	D F	XREF: F(4298.5). J ^π : L=1 and analyzing power in (pol d,p).
4306.7 5		F	
4311.7 5	(1/2) ⁻	F	J ^π : L=1 and analyzing power in (pol d,p).
4317.1 5		F	
4326.5 5		F	
4336.2 5	(1/2) ⁻	F	J ^π : L=1 and analyzing power in (pol d,p).
4349.5 5		F	
4356.13 8	1/2 ⁻	D F	XREF: F(4356.3). J ^π : L=1 and analyzing power in (pol d,p).
4364.57 6	1/2 ⁻	D F	XREF: F(4365.3). J ^π : L=1 and analyzing power in (pol d,p).
4374.0 3	(1/2,3/2,5/2 ⁺)	D F	XREF: F(4372.6). J ^π : γ to 3/2 ⁺ ; primary γ from 1/2 ⁺ .
4380.6 5		F	
4388.93 10	1/2 ⁻	D F	XREF: F(4389.1). J ^π : L=1 and analyzing power in (pol d,p).
4402.1 6		F	
4410.5 5		F	
4425.1 5	(3/2) ⁻	F	E(level),J ^π : L=(1) and analyzing power in (pol d,p).
4432.93 9	3/2 ⁻	D F	XREF: F(4433.1). J ^π : L=1 and analyzing power in (pol d,p).
4435.3 10	(33/2 ⁻)	N	J ^π : γ to (29/2 ⁻).
4444.0 5		F	

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Adopted Levels, Gammas (continued)

^{129}Te Levels (continued)				
E(level) [†]	J^{π} [‡]	$T_{1/2}$	XREF	Comments
4456.4 5			F	
4467.4 5	(1/2 ⁻)		F	E(level), J^{π} : L=(1) and analyzing power in (pol d,p).
4474.7 6			F	
4483.9 5			F	
4496.8 5			F	
4504.2 5			F	
4511.8 6			F	
4522.5 7			F	
4543.3 6			F	
4558.2 6			F	
4572.7 5			F	
4580.3 6			F	
4588.48 12	(1/2,3/2,5/2 ⁺)		D F	XREF: F(4589.2). J^{π} : γ to 3/2 ⁺ ; primary γ from 1/2 ⁺ .
4595.2 7			F	
4608.4 6			F	
4622.0 5			F	
4634.7 7			F	
4643.2 6	(1/2 ⁻ ,3/2 ⁻)		F	J^{π} : L(d,p)=(1).
4652.9 6	(1/2 ⁻ ,3/2 ⁻)		F	J^{π} : L(d,p)=(1).
4665.8 5	1/2 ⁻ ,3/2 ⁻		F	J^{π} : L(d,p)=1.
4682.0 6	1/2 ⁻ ,3/2 ⁻		F	J^{π} : L(d,p)=1.
4695.4 7			F	
4696.8 10	(33/2 ⁺)		N	J^{π} : γ to (31/2 ⁺).
4711.80 25	1/2 ⁻ ,3/2 ⁻		F	J^{π} : L(d,p)=1.
4724.3 5			F	
4743.5 6			F	
4766.2 7			F	
4777.9 6	(1/2 ⁻ ,3/2 ⁻)		F	J^{π} : L(d,p)=(1).
4794.3 6			F	
4807.9 6			F	
4825.2 11	(35/2 ⁻)		N	J^{π} : γ to (33/2 ⁻).
4840.4 6			F	
4849.6 8			F	
4868.2 7			F	
4879.7 6			F	
4907.4 7			F	
4917.0 7	(1/2 ⁻ ,3/2 ⁻)		F	J^{π} : L(d,p)=(1).
4929.4 7			F	
4946.8 6			F	
4958.3 6			F	
4975.3 6			F	
5002.3 6			F	
5013.3 9			F	
(6082.40 8)	1/2 ⁺		D	J^{π} : s-wave capture in 0 ⁺ . E(level): S(n)=6082.41 8 (2012Wa38).
6082.76 8			E	
6082.83 8	1/2	0.15 eV 10	E	J^{π} : from (n,n):resonances. Γ from (n,n):resonances.
6082.84 8	1/2 ⁻	0.0697 eV 10	E	J^{π} : from (n,n):resonances. Γ from (n,n):resonances.
6083.34 8	1/2 ⁻	0.170 eV 20	E	J^{π} : from (n,n):resonances. Γ from (n,n):resonances.
6083.72 8			E	
6083.86 8			E	
6083.98 8			E	

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Adopted Levels, Gammas (continued) ^{129}Te Levels (continued)

<u>E(level)[†]</u>	<u>XREF</u>	<u>E(level)[†]</u>	<u>XREF</u>	<u>E(level)[†]</u>	<u>XREF</u>
6084.23 8	E	6092.98 8	E	6099.29 8	E
6085.36 8	E	6093.16 8	E	6099.79 8	E
6085.65 8	E	6093.82 8	E	6100.26 8	E
6085.93 8	E	6094.41 8	E	6101.16 8	E
6086.46 8	E	6095.14 8	E	6101.68 8	E
6087.70 8	E	6095.20 8	E	6101.96 8	E
6088.47 8	E	6095.27 8	E	6102.47 8	E
6089.43 8	E	6095.39 8	E	6103.27 8	E
6090.28 8	E	6096.90 8	E	6104.06 8	E
6092.34 8	E	6097.62 8	E		
6092.68 8	E	6098.62 8	E		

[†] From least-squares fit to $E\gamma$ data for levels populated in γ -ray studies. In order to get an acceptable fit with reasonable reduced χ^2 , uncertainties of about 9 γ rays were doubled and another 4 γ rays not included in the fit. With these adjustments reduced $\chi^2=1.9$ somewhat larger than critical χ^2 of 1.3. For levels populated in particle-transfer data only, values are mainly from (d,p) and (d,t). For energies taken from (d,p), 0.5 keV systematic uncertainty is added in quadrature, and for energies from (d,t), uncertainty of 0.5 to 5 keV has been added in quadrature based on statement in [2003Wi02](#).

[‡] For levels populated in high-spin studies, ascending order of spins with excitation energy is assumed based on yrast pattern of population.

Adopted Levels, Gammas (continued)

$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	Mult. ^b	$\gamma(^{129}\text{Te})$		Comments
							α^d		
105.51	11/2 ⁻	105.50 5	100	0.0	3/2 ⁺	M4	429 7		$\alpha(\text{K})=217 3$; $\alpha(\text{L})=165.3 24$; $\alpha(\text{M})=38.5 6$; $\alpha(\text{N})=7.43 11$; $\alpha(\text{O})=0.656 10$ B(M4)(W.u.)=4.0 11 Mult.: from ^{129}Te IT decay. $\alpha(\text{K})$ exp and L-subshell ratios (1977So06,1972Ka61). E_γ : from IT decay (33.6 d). $\alpha(\text{K})=0.1130 18$; $\alpha(\text{L})=0.01448 23$; $\alpha(\text{M})=0.00289 5$ $\alpha(\text{N})=0.000572 10$; $\alpha(\text{O})=6.21\times 10^{-5} 10$ Additional information 1.
180.356	1/2 ⁺	180.37 5	100	0.0	3/2 ⁺	[M1]	0.1311 21		E_γ : from IT decay (33.6 d). $\alpha(\text{K})=0.1130 18$; $\alpha(\text{L})=0.01448 23$; $\alpha(\text{M})=0.00289 5$ $\alpha(\text{N})=0.000572 10$; $\alpha(\text{O})=6.21\times 10^{-5} 10$ Additional information 1.
464.659	9/2 ⁽⁻⁾	359.19 5	100	105.51	11/2 ⁻	(M1+E2)	0.0216 4		E_γ : from (n, γ). $\delta(\text{E2/M1})=-0.025 22$ or $-27 14$. Additional information 2.
544.585	5/2 ⁺	364.24 5	2.4 4	180.356	1/2 ⁺	[E2]	0.0208		$\alpha(\text{K})=0.01753 25$; $\alpha(\text{L})=0.00266 4$; $\alpha(\text{M})=0.000537 8$ $\alpha(\text{N})=0.0001044 15$; $\alpha(\text{O})=1.053\times 10^{-5} 15$ Additional information 3.
633.801	5/2 ⁺	544.59 5	100.0 9	0.0	3/2 ⁺	(M1+E2)			I_γ : unweighted average from (n, γ) and ^{129}Te g.s. decay. Additional information 4.
		453.38 5	23.6 23	180.356	1/2 ⁺				I_γ : unweighted average from (n, γ) and ^{129}Te g.s. decay. Additional information 5.
759.84	7/2 ⁻	633.76 5	100.0 10	0.0	3/2 ⁺	(M1+E2)			Additional information 6.
		295.27 5	29.9 20	464.659	9/2 ⁽⁻⁾	(M1+E2)	0.038 3		$\delta(\text{E2/M1})=+0.58 5$ or $+4.3 7$. Additional information 7.
773.23	1/2 ⁺	654.29 5	100.0 10	105.51	11/2 ⁻	(E2)			I_γ : unweighted average from (n, γ) and ^{129}Te g.s. decay. $\delta(\text{E2/M1})=-0.07 4$ or $-6.3 15$. Additional information 8.
		592.81 5	31.9 7	180.356	1/2 ⁺				
812.991	7/2 ⁺	773.22 5	100 7	0.0	3/2 ⁺				
		268.48 [‡] 5	0.444 7	544.585	5/2 ⁺	(M1,E2)	0.051 5		$\alpha(\text{K})=0.043 4$; $\alpha(\text{L})=0.0064 14$; $\alpha(\text{M})=0.0013 3$ $\alpha(\text{N})=0.00025 6$; $\alpha(\text{O})=2.5\times 10^{-5} 4$ $\delta(\text{E2/M1})=+0.47 19$ or $+9 6$. Additional information 9.
865.51	15/2 ⁽⁻⁾	812.95 5	100.0 10	0.0	3/2 ⁺	(E2)	0.00232 4		$\alpha=0.00232 4$; $\alpha(\text{K})=0.00200 3$; $\alpha(\text{L})=0.000257 4$; $\alpha(\text{M})=5.13\times 10^{-5} 8$ $\alpha(\text{N})=1.010\times 10^{-5} 15$; $\alpha(\text{O})=1.079\times 10^{-6} 16$ Additional information 10.
		759.82 15	100	105.51	11/2 ⁻	Q			Additional information 11.
874.945	3/2 ⁺	330.32 5	13.6 6	544.585	5/2 ⁺				Mult.: from $\gamma\gamma(\theta)$ in $^{238}\text{U}(^{12}\text{C},\text{F}\gamma)$. I_γ : from ^{129}Te g.s. decay. $I_\gamma=34.6 6$ in (n, γ) is in disagreement. Additional information 12.
		694.63 14	72 4	180.356	1/2 ⁺				Additional information 13.
966.902	5/2 ⁺	874.83 5	100.0 9	0.0	3/2 ⁺	(M1+E2)			Additional information 14.
		333.21 [‡] 5	1.91 4	633.801	5/2 ⁺				$\delta(\text{E2/M1})=0.00 2$ or $+3.9 4$.

Adopted Levels, Gammas (continued)

γ(¹²⁹Te) (continued)

E _i (level)	J _i ^π	E _γ [†]	I _γ [†]	E _f	J _f ^π	Mult. ^b	Comments
966.902	5/2 ⁺	421.72 & 10	0.56 4	544.585	5/2 ⁺		I _γ : from ¹²⁹ Te g.s. decay. I _γ =33.6 24 in (n,γ) is in disagreement. Additional information 15.
		786.41 5	11.95 12	180.356	1/2 ⁺		
		966.83 5	100.0 10	0.0	3/2 ⁺		
							δ(E2/M1)=+0.18 1 or -9.1 10.
1162.25	(7/2) ⁻	697.59 5	100.0 11	464.659	9/2 ⁽⁻⁾		
1221.28	(5/2 ⁻ ,7/2 ⁺)	1056.53 16	7.9 6	105.51	11/2 ⁻		
		461.47 5	21.0 10	759.84	7/2 ⁻		
1227.98	(7/2 ⁻ ,9/2 ⁺)	756.59 3	100 10	464.659	9/2 ⁽⁻⁾		
		1221.23 13	4.2 6	0.0	3/2 ⁺		
		415.17 & 5	1.67 7	812.991	7/2 ⁺		
1233.81	3/2 ⁺ ,5/2 ⁺	682.77 # @ 5	100.0 10	544.585	5/2 ⁺		E _γ : poor fit, level-energy difference=683.40.
		1122.48 & 5	1.60 5	105.51	11/2 ⁻		
		689.22 f 9	111 f 17	544.585	5/2 ⁺		
1281.64	5/2 ⁺	1053.36 19	100 6	180.356	1/2 ⁺		
		314.40 † & 5	22.0 4	966.902	5/2 ⁺		Additional information 17.
1303.41	1/2 ⁺	737.00 6	88 9	544.585	5/2 ⁺		Additional information 18.
		1281.65 6	100.0 10	0.0	3/2 ⁺		
		669.64 8	43.9 23	633.801	5/2 ⁺		
1318.30	7/2 ⁺	1123.01 7	100 4	180.356	1/2 ⁺		
		1303.6 4	40 4	0.0	3/2 ⁺		
		351.46 † 11	2.7 3	966.902	5/2 ⁺		
		505.33 5	18.33 19	812.991	7/2 ⁺		I _γ : from ¹²⁹ Sb decay. I _γ =172 12 in (n,γ) is discrepant, probably due to incorrect splitting of doublet at 773.2 keV. I _γ (684)/I _γ (1318)=1.35 2 in ¹²⁹ Sb decay as compared to 1.06 17 in (n,γ).
		684.39 21	22.01 22	633.801	5/2 ⁺		Additional information 19.
		773.29 @ 7	100.0 10	544.585	5/2 ⁺		Additional information 20.
1384.98	(3/2 ⁻ ,5/2,7/2 ⁺)	1318.42 12	16.35 17	0.0	3/2 ⁺		I _γ : from ¹²⁹ Sb decay. I _γ =159 20 in (n,γ) is discrepant. Additional information 21.
		840.17 22	27 9	544.585	5/2 ⁺		
1405.66	(5/2,7/2,9/2 ⁺)	1384.98 5	100.0 24	0.0	3/2 ⁺		
		592.77 6	61 4	812.991	7/2 ⁺		
1421.35	5/2 ⁺	861.00 5	100.0 21	544.585	5/2 ⁺		
		648.11 10	39.6 23	773.23	1/2 ⁺		
1460.90	(5/2,7/2,9/2 ⁺)	1421.36 15	100 4	0.0	3/2 ⁺		
		647.94 5	100.0 23	812.991	7/2 ⁺		
1481.21	(3/2 ⁻ ,5/2,7/2 ⁺)	826.75 16	54 16	633.801	5/2 ⁺		
		514.43 8	100 8	966.902	5/2 ⁺		
1483.37	7/2 ⁺	606.22 5	99 3	874.945	3/2 ⁺		
		670.31 5	100	812.991	7/2 ⁺		

Adopted Levels, Gammas (continued)

γ(¹²⁹Te) (continued)

E _i (level)	J _i ^π	E _γ [†]	I _γ [†]	E _f	J _f ^π	Mult. ^b	α ^d	Comments
1515.7	(11/2 ⁺)	703.3 6	100	812.991	7/2 ⁺			
1523.29	19/2 ⁽⁻⁾	657.74 10	100	865.51	15/2 ⁽⁻⁾	Q		Additional information 22.
1545.09	7/2 ⁺ ,9/2 ⁺	1000.50 8	100	544.585	5/2 ⁺			
1559.86	(3/2) ⁻	338.65 8	71 5	1221.28	(5/2 ⁻ ,7/2 ⁺)			
		786.45 7	43 5	773.23	1/2 ⁺			I _γ : doubly placed, intensity split based on ¹²⁹ Sb decay data.
		800.04 3	100 11	759.84	7/2 ⁻			
		1379.33 19	29 5	180.356	1/2 ⁺			
		1559.66 21	62 3	0.0	3/2 ⁺			
1581.97	7/2 ⁺	354.13 8	13.08 14	1227.98	(7/2 ⁻ ,9/2 ⁺)			
		707.08 5	43.1 14	874.945	3/2 ⁺			
		768.98 5	100.0 15	812.991	7/2 ⁺			
1600.08	5/2 ⁺	318.36 [‡] 5	13.08 14	1281.64	5/2 ⁺			
		787.16 5	100.0 11	812.991	7/2 ⁺	(M1+E2)		δ(E2/M1)=+0.06 24 or -1 8. E _γ : from ¹²⁹ Sb decay. Other: 786.45 7 doublet in (n,γ).
		1419.40 [‡] 12	22.7 3	180.356	1/2 ⁺	(E2)		
		1600.13 [‡] 5	33.4 3	0.0	3/2 ⁺	(M1+E2)		
1632.57	7/2 ⁻ ,9/2 ⁺	404.64 5	84.4 8	1227.98	(7/2 ⁻ ,9/2 ⁺)			δ(E2/M1)=+0.77 11 or +2.7 6. δ(Q/D)=+0.47 5 or +3.65 65 for 9/2 to 7/2; +0.10 4 or +0.71 16 for 9/2 to 9/2; +0.12 19 or +0.93 34 for 7/2 to 7/2; -0.45 to -1.73 for 7/2 to 9/2.
		819.51 5	100.0 21	812.991	7/2 ⁺			
		1087.98 5	29.6 6	544.585	5/2 ⁺			
		1167.95 5	18.2 2	464.659	9/2 ⁽⁻⁾			
1654.31	(17/2 ⁻ ,19/2 ⁻)	131.0 1	84 8	1523.29	19/2 ⁽⁻⁾			Additional information 23.
		788.8 1	100 10	865.51	15/2 ⁽⁻⁾			
1656.17	5/2 ⁺	1022.12 [‡] 7	2.24 22	633.801	5/2 ⁺			
		1475.91 [‡] 5	5.33 11	180.356	1/2 ⁺			
		1656.20 10	100.0 11	0.0	3/2 ⁺	(M1+E2)		Additional information 24. δ(E2/M1)=+0.02 3 or -3.7 4.
1727.1	(15/2 ⁺)	211.4 5	100	1515.7	(11/2 ⁺)			
1727.972	(9/2) ⁺	95.42 5	0.19 1	1632.57	7/2 ⁻ ,9/2 ⁺	[D,E2]	1.1 9	
		146.11 5	0.39 1	1581.97	7/2 ⁺	[M1+E2]	0.34 11	
		244.53 5	1.73 2	1483.37	7/2 ⁺			
		409.71 5	0.99 2	1318.30	7/2 ⁺			
		499.99 5	1.84 2	1227.98	(7/2 ⁻ ,9/2 ⁺)			δ(Q/D)=-0.14 to -3.2 for J(1228)=7/2; no fit for 9/2.
		761.12 5	18.51 19	966.902	5/2 ⁺	(E2)		
		914.96 5	100.0 10	812.991	7/2 ⁺	(M1+E2)		δ(E2/M1)=+0.105 15 or -15.5 30.
		1263.30 5	3.90 4	464.659	9/2 ⁽⁻⁾	(E1)		
		1622.46 5	0.89 1	105.51	11/2 ⁻	(E1(+M2))		δ(M2/E1)=-0.07 10.
1751.11	(5/2,7/2,9/2)	523.13 [#] 12	100	1227.98	(7/2 ⁻ ,9/2 ⁺)			
1752.32	(5/2) ⁻	590.00 9	47 3	1162.25	(7/2) ⁻			
		992.52 8	100 5	759.84	7/2 ⁻			

Adopted Levels, Gammas (continued)

γ(¹²⁹Te) (continued)

E _i (level)	J _i ^π	E _γ [†]	I _γ [†]	E _f	J _f ^π	Mult. ^b	α ^d	Comments
1752.32	(5/2) ⁻	1287.62 18 1752.6 4	47 5 40 12	464.659 0.0	9/2 ⁽⁻⁾ 3/2 ⁺			
1753.35	5/2 ⁺	435.04 [#] 9 471.54 9 525.23 10	22.6 15 4.8 4 17 1	1318.30 1281.64 1227.98	7/2 ⁺ 5/2 ⁺ (7/2 ⁻ , 9/2 ⁺)			Additional information 25. δ(Q/D)=-0.34 7 or +4 8 if J(1228)=7/2; no fit for J(1228)=9/2.
1762.45	(5/2 ⁺)	940.51 [#] 12 1209.03 ^{&} 5 1646.79 [@] 5 1582.11 5	82 4 100.0 15 2.87 10 100 4	812.991 544.585 105.51 180.356	7/2 ⁺ 5/2 ⁺ 11/2 ⁻ 1/2 ⁺	(M1+E2) [E3]		E _γ : poor fit, level-energy difference=1647.84.
1777.8	(5/2, 7/2, 9/2 ⁺)	1233.2 6	100	544.585	5/2 ⁺			
1779.79	5/2 ⁺	1779.78 5	100	0.0	3/2 ⁺			
1843.67	(9/2) ⁺	115.84 5 876.65 5 1030.65 5 1738.16 5 1843.49 ^g 5	0.58 2 18.2 4 100.0 10 49.2 5 0.14 4	1727.972 966.902 812.991 105.51 0.0	(9/2) ⁺ 5/2 ⁺ 7/2 ⁺ 11/2 ⁻ 3/2 ⁺	[M1+E2] (M1+E2) [M3]	0.7 3	δ(E2/M1)=+0.077 13 or -10.8 15. E _γ : this transition is less certain.
1851.55	5/2 ⁻ , 7/2 ⁻	689.22 ^f 9 885.0 3 1091.42 23 1851.28 18	100 ^f 9 10.9 14 13.9 20 37 3	1162.25 966.902 759.84 0.0	(7/2) ⁻ 5/2 ⁺ 7/2 ⁻ 3/2 ⁺			
1867.65	(5/2, 7/2 ⁺)	992.70 5	100	874.945	3/2 ⁺			
1868.87	5/2 ⁺	1095.47 18 1234.5 3 1324.6 3	100 8 100 8 81 8	773.23 633.801 544.585	1/2 ⁺ 5/2 ⁺ 5/2 ⁺			
1870.57	5/2 ⁺	589.98 25 996.54 5 1237.81 [#] 12 1326.98 5	3.2 9 25.3 6 34.7 9 100.0 10	1281.64 874.945 633.801 544.585	5/2 ⁺ 3/2 ⁺ 5/2 ⁺ 5/2 ⁺	(M1+E2) (M1+E2)		E _γ : poor fit, level-energy difference=995.63. E _γ : poor fit, level-energy difference=1236.77. δ(E2/M1)=-0.65 17 or -7 to +10. E _γ : poor fit, level-energy difference=1325.99. δ(E2/M1)=+0.30 15 or +9.2 24. E _γ : poor fit, level-energy difference=1690.21. δ(E2/M1)=-0.07 6 or -2.8 6.
1886.64	(21/2 ⁻)	1691.24 5 1871.58 5 232.2 2 363.35 15	6.10 21 51.3 5 21 4 100 10	180.356 0.0 1654.31 1523.29	1/2 ⁺ 3/2 ⁺ (17/2 ⁻ , 19/2 ⁻) 19/2 ⁽⁻⁾	(M1+E2) D		
1921.26	(5/2) ⁺	1287.45 5	100	633.801	5/2 ⁺			
1939.52	(5/2, 7/2, 9/2)	657.6 ^g 1126.57 5 1179.63 5	100.0 24 45.2 16	1281.64 812.991 759.84	5/2 ⁺ 7/2 ⁺ 7/2 ⁻			
1957.06	(21/2 ⁻)	433.74 9	100	1523.29	19/2 ⁽⁻⁾	D		
2040.20	3/2 ⁻	480.22 21	18.5 3	1559.86	(3/2) ⁻			

Adopted Levels, Gammas (continued)

γ(¹²⁹Te) (continued)

E _i (level)	J ^π _i	E _γ [†]	I _γ [†]	E _f	J ^π _f	Mult. ^b	α ^d	Comments
2040.20	3/2 ⁻	818.86 6	28.5 9	1221.28	(5/2 ⁻ ,7/2 ⁺)			
		1859.64 8	100 3	180.356	1/2 ⁺			
		2040.38 7	47 3	0.0	3/2 ⁺			
2071.400	5/2 ⁺	1104.52 5	46.7 5	966.902	5/2 ⁺	(M1+E2)		δ(E2/M1)=-0.13 12 or +2.5 8.
		1196.42 5	11.70 20	874.945	3/2 ⁺			
		1258.44 5	55.1 5	812.991	7/2 ⁺	(M1+E2)		δ(E2/M1)=-0.37 15 or -2.1 7.
		1437.52 5	43.3 7	633.801	5/2 ⁺	(M1+E2)		δ(E2/M1)=-1.0 4 or -2.2 to +45.
		1526.84 5	75.1 7	544.585	5/2 ⁺	(M1+E2)		δ(E2/M1)=-0.10 9 or +2.1 5.
		1606.72 5	2.7 3	464.659	9/2 ⁽⁻⁾	[M2]		
		1891.10 7	2.18 13	180.356	1/2 ⁺			
2086.10	(7/2 ⁺)	2071.36 5	100.0 10	0.0	3/2 ⁺	(M1+E2)		δ(E2/M1)=-0.29 8 or +1.55 25.
		1211.89 & 17	100 16	874.945	3/2 ⁺			
		1273.10 5	43.2 9	812.991	7/2 ⁺			
		1541.47 5	17.6 5	544.585	5/2 ⁺			
2114.58	5/2 ⁺	2086.11 5	14.18 25	0.0	3/2 ⁺			
		796.21 6	4.6 3	1318.30	7/2 ⁺			
		832.99 16	7.2 17	1281.64	5/2 ⁺			
		1147.59 5	10.2 3	966.902	5/2 ⁺			
		1301.45 5	23.2 9	812.991	7/2 ⁺			
		1480.94 # 12	42.8 6	633.801	5/2 ⁺			
2131.20	7/2 ⁻	1570.09 5	100.0 10	544.585	5/2 ⁺	(M1+E2)		δ(E2/M1)=-0.10 5 or +2.1 3.
		2114.67 5	48.0 5	0.0	3/2 ⁺	(M1+E2)		δ(E2/M1)=+0.17 5 or -9 3.
		849.57 5	54.0 21	1281.64	5/2 ⁺			
2134.86	(5/2 ⁻ ,7/2 ⁺)	903.19 8	100 5	1227.98	(7/2 ⁻ ,9/2 ⁺)			
		1501.04 5	100 3	633.801	5/2 ⁺			
2137.83	(23/2 ⁺)	1669.16 @ 7	36.3 24	464.659	9/2 ⁽⁻⁾			E _γ : poor fit, level-energy difference=1670.20.
		2134.86 & 5	62.1 16	0.0	3/2 ⁺			
		180.4 2	35 4	1957.06	(21/2 ⁻)	(E1)	0.0374	B(E1)(W.u.)=3.5×10 ⁻⁷ 6
2220.9	(3/2,5/2 ⁺)	251.1 2	100 11	1886.64	(21/2 ⁻)	(E1)	0.0152	B(E1)(W.u.)=3.6×10 ⁻⁷ 7
		1000.26 10	34.7 14	1221.28	(5/2 ⁻ ,7/2 ⁺)			
2265.29	(5/2 ⁺ ,7/2 ⁺)	1677.29 15	49 5	544.585	5/2 ⁺			
		2041.6 7	34.7 14	180.356	1/2 ⁺			
		2221.5 7	100 14	0.0	3/2 ⁺			
		1037.29 5	100 3	1227.98	(7/2 ⁻ ,9/2 ⁺)			
		1298.7 4	38 13	966.902	5/2 ⁺			
2267.20	3/2 ⁻	2265.27 5	11.0 3	0.0	3/2 ⁺			
		707.21 15	31 5	1559.86	(3/2 ⁻)			
		1045.83 10	27.3 15	1221.28	(5/2 ⁻ ,7/2 ⁺)			
		1105.46 & 11	15.2 15	1162.25	(7/2 ⁻)			
		1493.91 12	22 3	773.23	1/2 ⁺			
		1633.6 3	20 4	633.801	5/2 ⁺			
		2086.84 6	100.0 23	180.356	1/2 ⁺			

Adopted Levels, Gammas (continued)

$\gamma(^{129}\text{Te})$ (continued)								
$E_i(\text{level})$	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult. ^b		
2267.20	3/2 ⁻	2267.1 9	9.1 23	0.0	3/2 ⁺			
2360.472	3/2 ⁻	704.40 18	0.81 8	1656.17	5/2 ⁺			
		800.40 20	2.8 4	1559.86	(3/2) ⁻			
		1139.21 13	2.27 17	1221.28	(5/2 ⁻ , 7/2 ⁺)			
		1485.48 16	1.92 12	874.945	3/2 ⁺			
		1586.7 5	0.81 23	773.23	1/2 ⁺			
		1815.6 5	0.47 12	544.585	5/2 ⁺			
		2180.12 3	100 3	180.356	1/2 ⁺			
		2360.42 3	18.72 17	0.0	3/2 ⁺			
		2379.555	3/2 ⁻	527.90 8	3.86 19	1851.55	5/2 ⁻ , 7/2 ⁻	
				723.22 14	1.9 4	1656.17	5/2 ⁺	
1097.9 3	8.6 7			1281.64	5/2 ⁺			
1158.37 12	14.6 7			1221.28	(5/2 ⁻ , 7/2 ⁺)			
1412.4 5	1.4 4			966.902	5/2 ⁺			
1504.3 3	10.0 16			874.945	3/2 ⁺			
1606.60 13	10.5 9			773.23	1/2 ⁺			
1619.5 6	6.0 7			759.84	7/2 ⁻			
1745.7 3	4.2 9			633.801	5/2 ⁺			
1834.9 3	4.6 4			544.585	5/2 ⁺			
2199.21 3	100.0 11			180.356	1/2 ⁺			
2379.51 4	36.1 7			0.0	3/2 ⁺			
2493.06	3/2 ⁻			623.87 20	64 9	1868.87	5/2 ⁺	
		641.84 17	79 9	1851.55	5/2 ⁻ , 7/2 ⁻			
		1526.4 6	79 21	966.902	5/2 ⁺			
		2312.7 8	86 21	180.356	1/2 ⁺			
		2493.1 6	100 21	0.0	3/2 ⁺			
2510.79	23/2 ⁽⁻⁾	987.5 1	100	1523.29	19/2 ⁽⁻⁾	Q		
2524.76	1/2 ⁻	1649.47 ^f 9	28 ^f 8	874.945	3/2 ⁺			
		2343.7 3	17.3 18	180.356	1/2 ⁺			
		2524.78 ^f 3	100 ^f 27	0.0	3/2 ⁺			
2581.67	3/2 ⁻	729.97 10	70 5	1851.55	5/2 ⁻ , 7/2 ⁻			
		1360.4 4	63 11	1221.28	(5/2 ⁻ , 7/2 ⁺)			
		2401.74 22	100 7	180.356	1/2 ⁺			
		2581.5 9	33 7	0.0	3/2 ⁺			
		2705.130	1/2 ⁻	344.55 10	4.6 3	2360.472	3/2 ⁻	
437.4 4	1.5 3			2267.20	3/2 ⁻			
1401.4 3	2.7 4			1303.41	1/2 ⁺			
1470.9 ^a 4	5.6 8			1233.81	3/2 ⁺ , 5/2 ⁺			
1830.22 4	44.2 4			874.945	3/2 ⁺			
1931.91 23	6.5 10			773.23	1/2 ⁺			
2071.03 23	9.0 6			633.801	5/2 ⁺			
2524.78 ^f 3	100 ^f 6			180.356	1/2 ⁺			

Adopted Levels, Gammas (continued)

γ(¹²⁹Te) (continued)

<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_γ[†]</u>	<u>I_γ[†]</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Mult.^b</u>
2705.130	1/2 ⁻	2705.07 4	67.3 6	0.0	3/2 ⁺	
2840.3	27/2 ⁽⁻⁾	330.4 3	100	2510.79	23/2 ⁽⁻⁾	(E2) ^c
2885.8		748.0 6	100	2137.83	(23/2 ⁺)	
3051.6	(27/2 ⁺)	913.9 3	100	2137.83	(23/2 ⁺)	Q
3355.46	3/2 ⁻	3355.14 14		0.0	3/2 ⁺	
3429.8	(3/2) ⁻	2554.0 5	100 31	874.945	3/2 ⁺	
		2670.4 6	42 7	759.84	7/2 ⁻	
		3250.0 10	38 8	180.356	1/2 ⁺	
3502.58	(3/2 ⁻)	2627.7 5	43 7	874.945	3/2 ⁺	
		2741.4 11	25 7	759.84	7/2 ⁻	
		3322.0 4	100 11	180.356	1/2 ⁺	
3512.9	(29/2 ⁻)	672.6 4	100	2840.3	27/2 ⁽⁻⁾	D
3528.28	(1/2 ⁻)	2652.3 ^f 4	30 ^f 9	874.945	3/2 ⁺	
		2754.8 7	22 5	773.23	1/2 ⁺	
		3348.6 5	100 5	180.356	1/2 ⁺	
		3528.4 4	11.3 17	0.0	3/2 ⁺	
3546.91	(3/2 ⁻)	1987.6 6	23 5	1559.86	(3/2) ⁻	
		3366.3 6	100 14	180.356	1/2 ⁺	
		3546.6 11	23 5	0.0	3/2 ⁺	
3564.51	1/2 ⁻	3564.71 14	100	0.0	3/2 ⁺	
3617.0	(31/2 ⁻)	776.7 6	100	2840.3	27/2 ⁽⁻⁾	
3636.7	(29/2 ⁺)	586.8 4	100	3051.6	(27/2 ⁺)	
3638.38	1/2 ⁻	3457.6 3	48 4	180.356	1/2 ⁺	
		3638.36 13	100 4	0.0	3/2 ⁺	
3648.77	1/2 ⁻	3468.7 3	100	180.356	1/2 ⁺	
3792.40	3/2 ⁻	2371.1 7	5.1 9	1421.35	5/2 ⁺	
		3018.7 10	5.1 14	773.23	1/2 ⁺	
		3612.02 6	100.0 19	180.356	1/2 ⁺	
		3792.4 3	18.2 9	0.0	3/2 ⁺	
3852.71	3/2 ⁻	2630.0 11	31 12	1221.28	(5/2 ⁻ , 7/2 ⁺)	
		3672.2 3	100 12	180.356	1/2 ⁺	
3865.36	3/2 ⁻	3684.74 14	100	180.356	1/2 ⁺	
4032.59	3/2 ⁻	3853.6 7	100	180.356	1/2 ⁺	
4033.1	(31/2 ⁺)	396.4 5	100	3636.7	(29/2 ⁺)	
4087.54	3/2 ⁻	1708.4 ^e 3	200 ^e 28	2379.555	3/2 ⁻	
		3907.2 5	100 8	180.356	1/2 ⁺	
4121.18	1/2 ⁻	3940.4 4	100 8	180.356	1/2 ⁺	
		4120.5 4	25 5	0.0	3/2 ⁺	
4133.50	3/2 ⁻	3952.8 4	57 4	180.356	1/2 ⁺	
		4133.23 19	100 4	0.0	3/2 ⁺	
4155.6	(31/2 ⁺)	1105.7 6	100	3051.6	(27/2 ⁺)	
4175.3	(1/2) ⁻	4174.6 ^e 6	100 ^e	0.0	3/2 ⁺	
4180.68	(3/2) ⁻	4001.5 8	100	180.356	1/2 ⁺	

Adopted Levels, Gammas (continued)

γ(¹²⁹Te) (continued)

<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_γ[†]</u>	<u>I_γ[†]</u>	<u>E_f</u>	<u>J_f^π</u>
4204.3	1/2 ⁻	4204.0 9	100	0.0	3/2 ⁺
4220.46	3/2 ⁻	427.7 3	21 4	3792.40	3/2 ⁻
		1999.5 3	100 21	2220.9	(3/2,5/2 ⁺)
4240.5	3/2 ⁻	4060.5 5	100	180.356	1/2 ⁺
4277.02	3/2 ⁻	4096.5 3	100	180.356	1/2 ⁺
4297.80	1/2 ⁻	4297.7 6	100	0.0	3/2 ⁺
4356.13	1/2 ⁻	4174.6 ^e 6	100 ^e	180.356	1/2 ⁺
4364.57	1/2 ⁻	4184.0 3	53 4	180.356	1/2 ⁺
		4364.38 15	100.0 24	0.0	3/2 ⁺
4374.0	(1/2,3/2,5/2 ⁺)	4374.6 12	100	0.0	3/2 ⁺
4388.93	1/2 ⁻	4208.4 4	100	180.356	1/2 ⁺
4432.93	3/2 ⁻	4252.0 6	35 3	180.356	1/2 ⁺
		4433.6 5	100 5	0.0	3/2 ⁺
4435.3	(33/2 ⁻)	922.4 6	100	3512.9	(29/2 ⁻)
4588.48	(1/2,3/2,5/2 ⁺)	4588.5 5	100	0.0	3/2 ⁺
4696.8	(33/2 ⁺)	541.2 5	100	4155.6	(31/2 ⁺)
4825.2	(35/2 ⁻)	389.9 5	100	4435.3	(33/2 ⁻)
(6082.40)	1/2 ⁺	1493.91 ^f 12	2.3 ^f 3	4588.48	(1/2,3/2,5/2 ⁺)
		1649.47 ^f 9	2.5 ^f 5	4432.93	3/2 ⁻
		1693.45 10	4.8 4	4388.93	1/2 ⁻
		1708.4 ^e 3	2.6 ^e 3	4374.0	(1/2,3/2,5/2 ⁺)
		1717.80 5	9.0 3	4364.57	1/2 ⁻
		1726.24 7	1.4 3	4356.13	1/2 ⁻
		1784.58 23	1.13 20	4297.80	1/2 ⁻
		1805.35 11	2.04 10	4277.02	3/2 ⁻
		1842.1 3	2.51 10	4240.5	3/2 ⁻
		1861.80 18	3.0 3	4220.46	3/2 ⁻
		1878.1 3	1.4 3	4204.3	1/2 ⁻
		1901.77 18	1.74 20	4180.68	(3/2) ⁻
		1906.9 3	1.02 20	4175.3	(1/2) ⁻
		1948.81 10	3.1 7	4133.50	3/2 ⁻
		1961.16 8	3.2 10	4121.18	1/2 ⁻
		1994.92 12	3.5 3	4087.54	3/2 ⁻
		2049.87 16	2.61 15	4032.59	3/2 ⁻
		2216.96 7	4.35 15	3865.36	3/2 ⁻
		2229.63 13	2.71 10	3852.71	3/2 ⁻
		2289.99 4	19.60 20	3792.40	3/2 ⁻
		2433.65 11	2.87 15	3648.77	1/2 ⁻
		2443.99 7	4.97 15	3638.38	1/2 ⁻
		2518.02 11	5.83 10	3564.51	1/2 ⁻
		2535.47 9	4.04 15	3546.91	(3/2 ⁻)
		2554.06 10	2.2 4	3528.28	(1/2 ⁻)
		2579.78 7	5.42 15	3502.58	(3/2 ⁻)

Adopted Levels, Gammas (continued) $\gamma(^{129}\text{Te})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π	$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π
(6082.40)	1/2 ⁺	2652.3 ^f 4	3.3 ^f 3	3429.8	(3/2) ⁻	(6082.40)	1/2 ⁺	3815.14 6	12.2 3	2267.20	3/2 ⁻
		2726.70 12	3.48 15	3355.46	3/2 ⁻			3860.59 10	5.12 15	2220.9	(3/2,5/2 ⁺)
		3377.26 4	53.4 5	2705.130	1/2 ⁻			4042.11 7	10.70 20	2040.20	3/2 ⁻
		3500.59 12	4.40 20	2581.67	3/2 ⁻			4426.8 7	1.18 15	1656.17	5/2 ⁺
		3557.60 9	5.94 15	2524.76	1/2 ⁻			4523.0 5	1.18 10	1559.86	(3/2) ⁻
		3589.41 17	2.66 15	2493.06	3/2 ⁻			5449.4 6	1.13 10	633.801	5/2 ⁺
		3702.82 6	52.9 5	2379.555	3/2 ⁻			5901.55 24	3.02 15	180.356	1/2 ⁺
		3721.87 5	100.0 10	2360.472	3/2 ⁻			6082.0 3	2.00 10	0.0	3/2 ⁺

[†] The γ -ray data are primarily from (n, γ) and ^{129}Sb β^- g.s. decay. When levels are populated in both (n, γ) and β^- decay of 4.366-h decay of ^{129}Sb , values are unweighted averages with a minimum uncertainty of 0.05 keV for gamma-ray energy. For high-spin ($J > 11/2$) data, values are unweighted averages from ($^{64}\text{Ni}, X\gamma$) and 17.7-min decay of ^{129}Sb , when a level is populated in both studies.

[‡] γ reported in ^{129}Sb β^- (4.366 h), not in (n, γ).

Doublet in ^{129}Sb β^- (4.366 h).

@ E_γ not included in the fitting procedure due to poor agreement.

& Uncertainty doubled in the fitting procedure.

^a Placement is not unique; also in $\gamma\gamma$ coin with 359 γ .

^b From $\gamma(\theta)$ data at low temperature in ^{129}Sb β^- g.s. decay. Mixing ratios are mostly double values and are given under comments.

^c $\Delta J=2$, Q from $\gamma\gamma(\theta)$, and RUL.

^d Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ -ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

^e Multiply placed with undivided intensity.

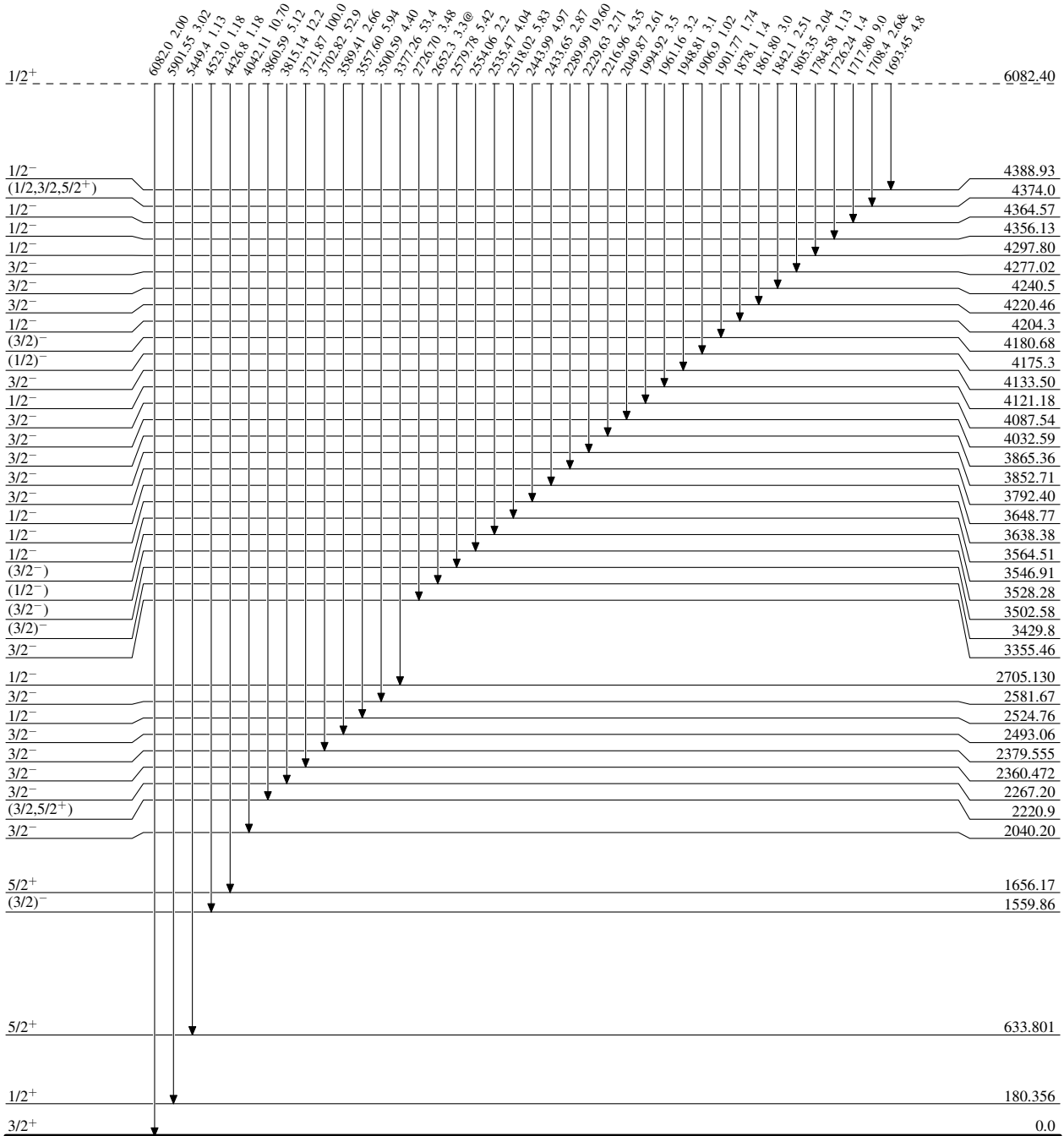
^f Multiply placed with intensity suitably divided.

^g Placement of transition in the level scheme is uncertain.

Adopted Levels, Gammas

Level Scheme

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

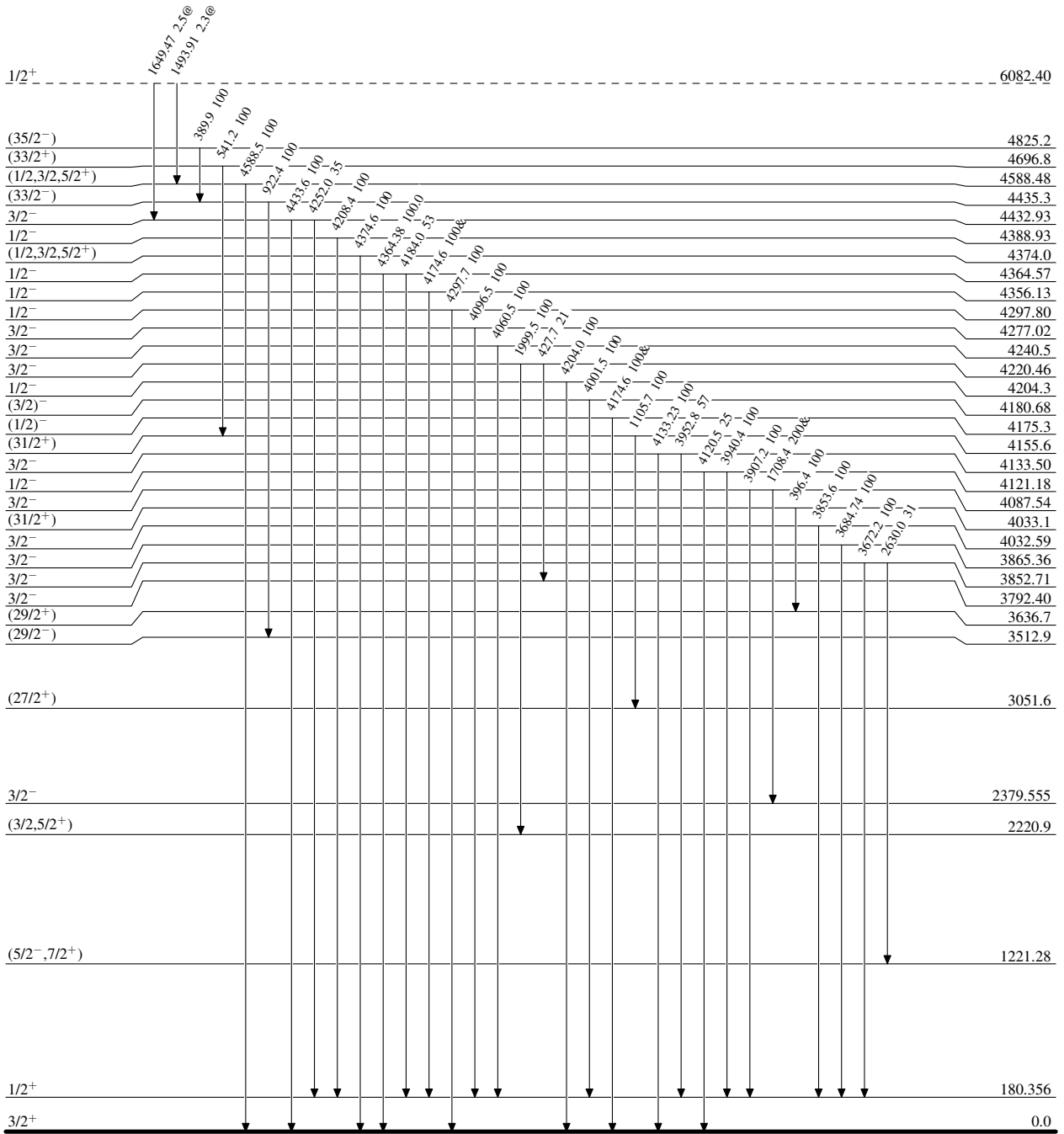


69.6 min 3

Adopted Levels, Gammas

Level Scheme (continued)

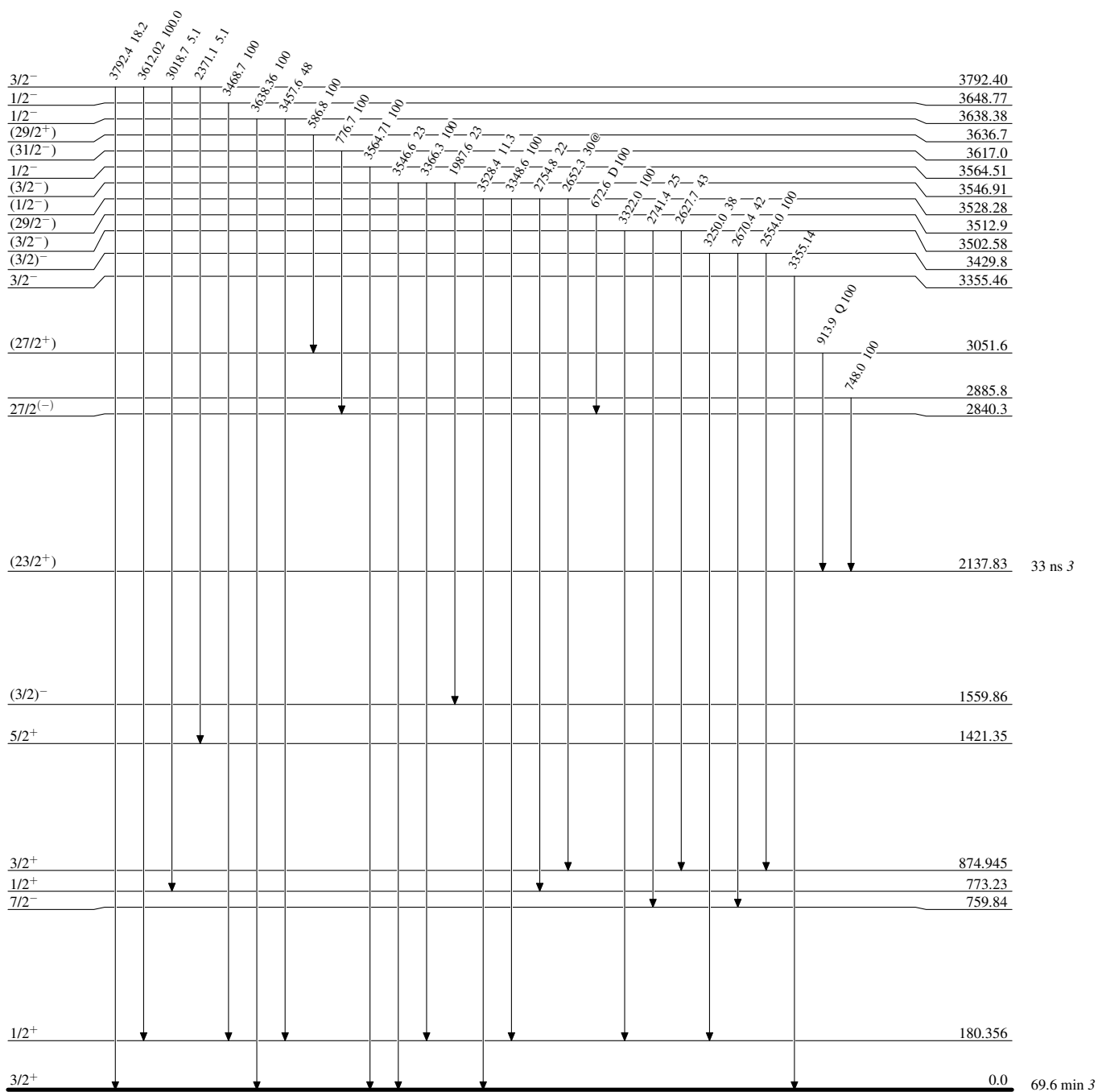
Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given
@ Multiply placed: intensity suitably divided



$^{129}_{52}\text{Te}_{77}$

Adopted Levels, Gammas**Level Scheme (continued)**

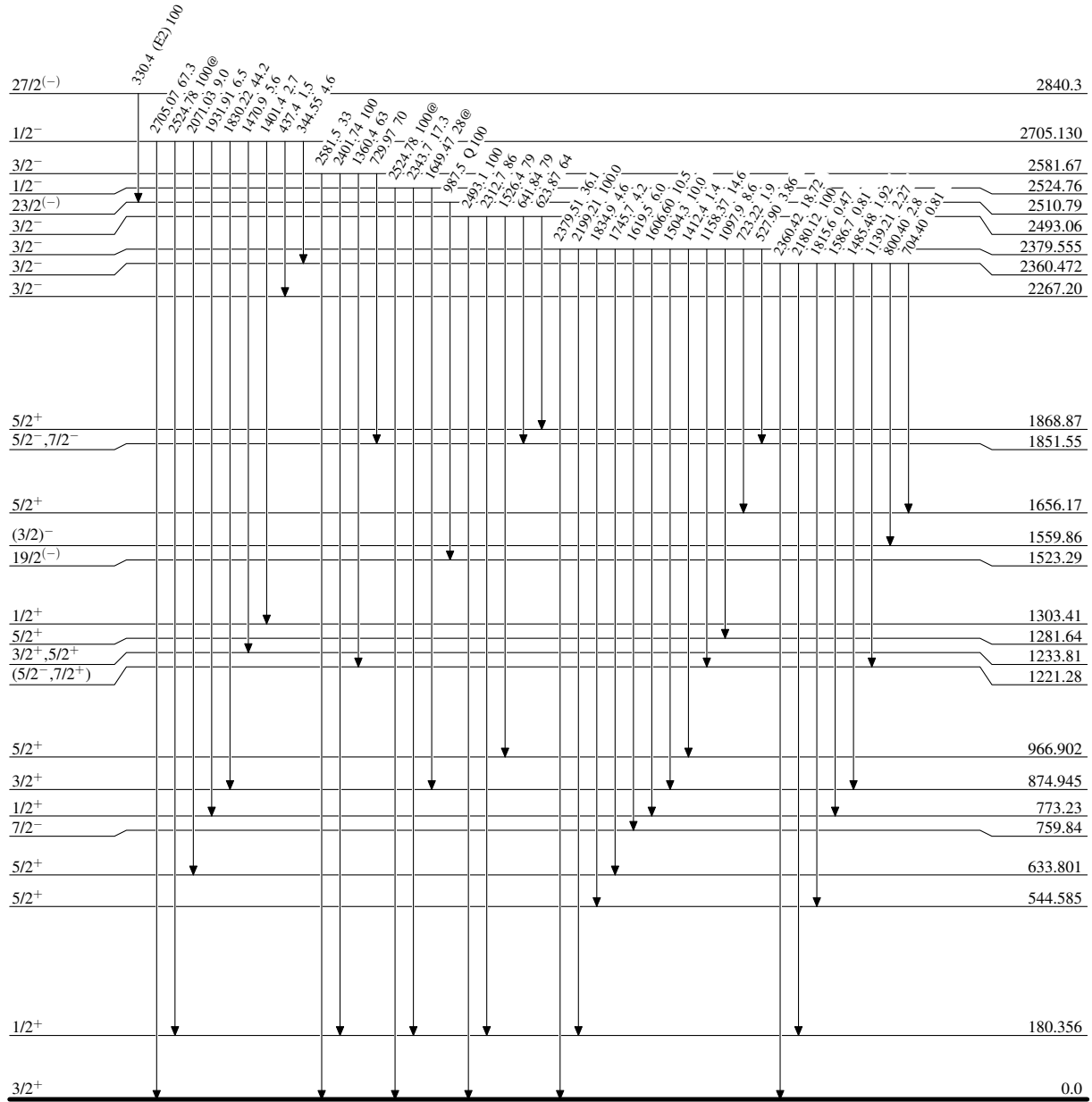
Intensities: Relative photon branching from each level
 & Multiply placed: undivided intensity given
 @ Multiply placed: intensity suitably divided

 $^{129}_{52}\text{Te}_{77}$

Adopted Levels, Gammas

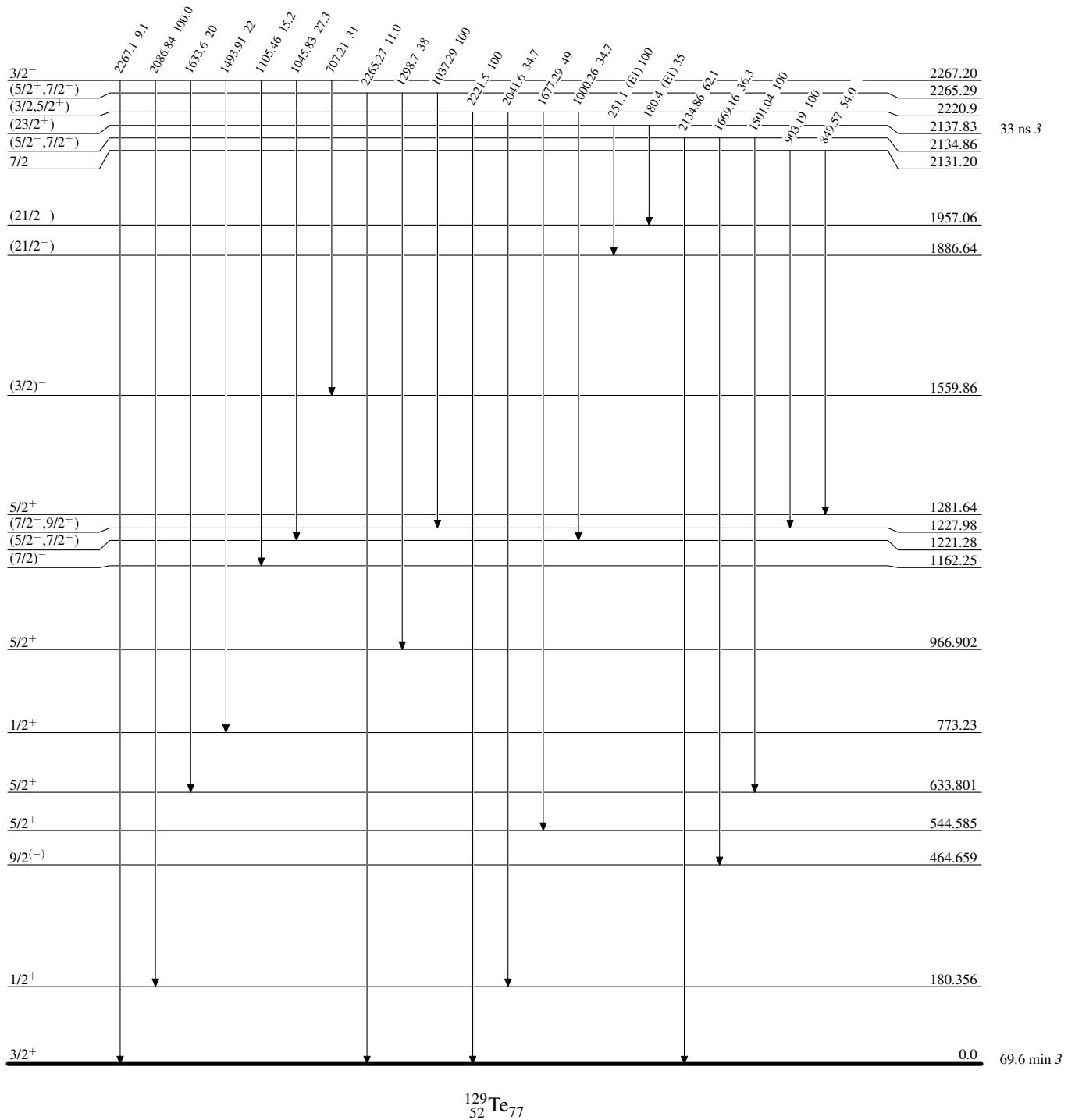
Level Scheme (continued)

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



Adopted Levels, GammasLevel Scheme (continued)

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

 $^{129}_{52}\text{Te}_{77}$

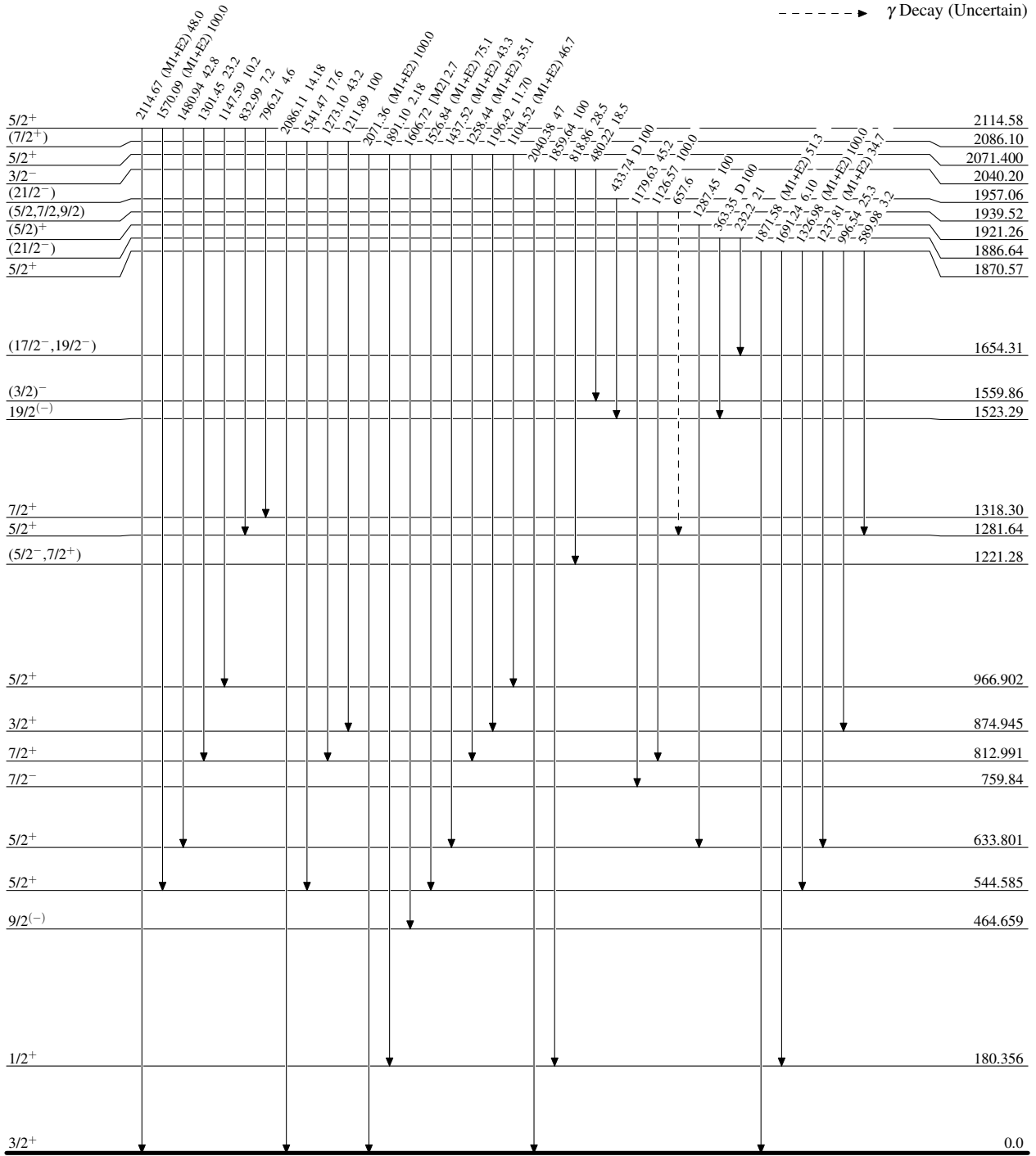
Adopted Levels, Gammas

Level Scheme (continued)

Legend

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

-----> γ Decay (Uncertain)



$^{129}_{52}\text{Te}_{77}$

69.6 min 3

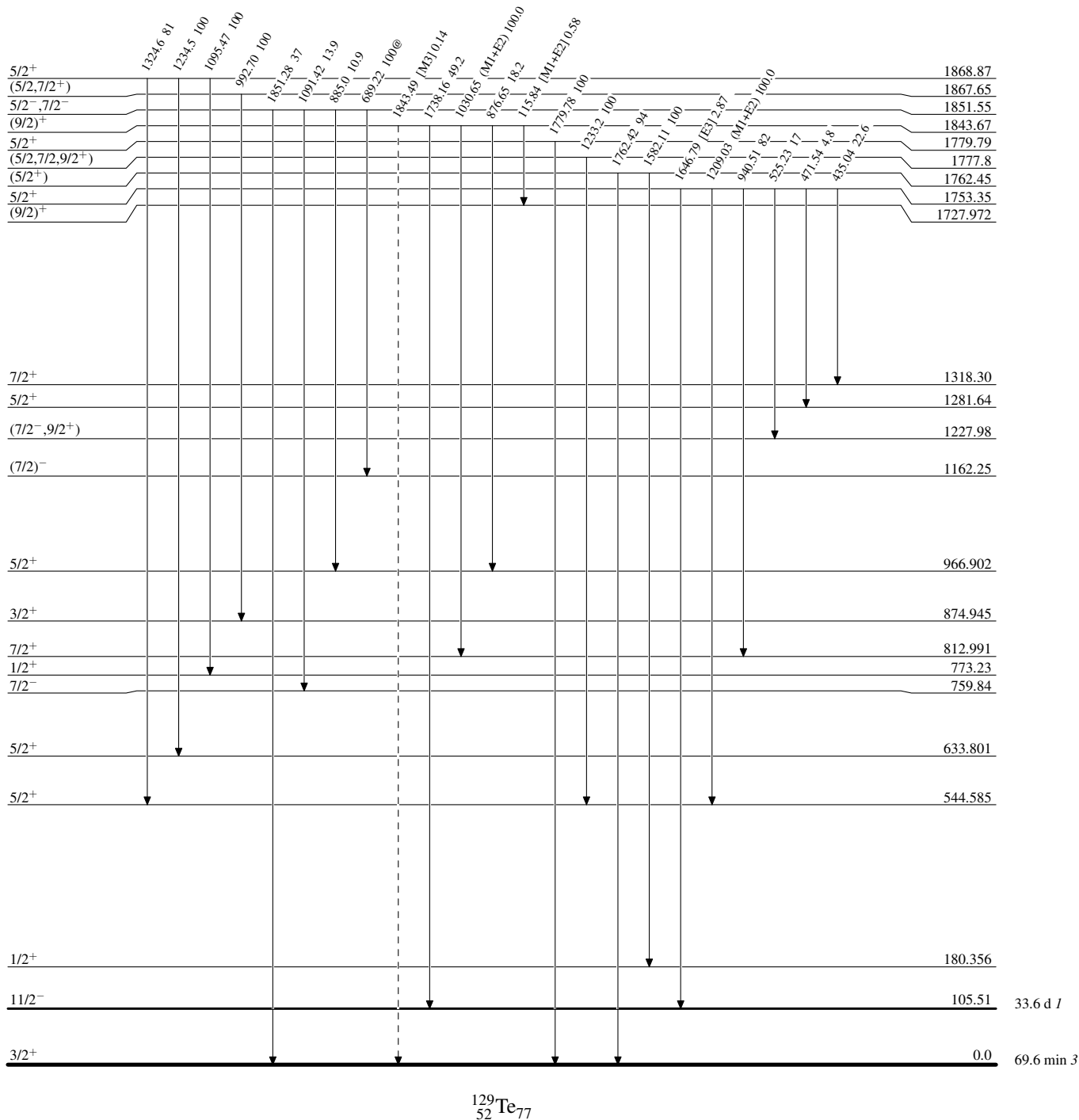
Adopted Levels, Gammas

Level Scheme (continued)

Legend

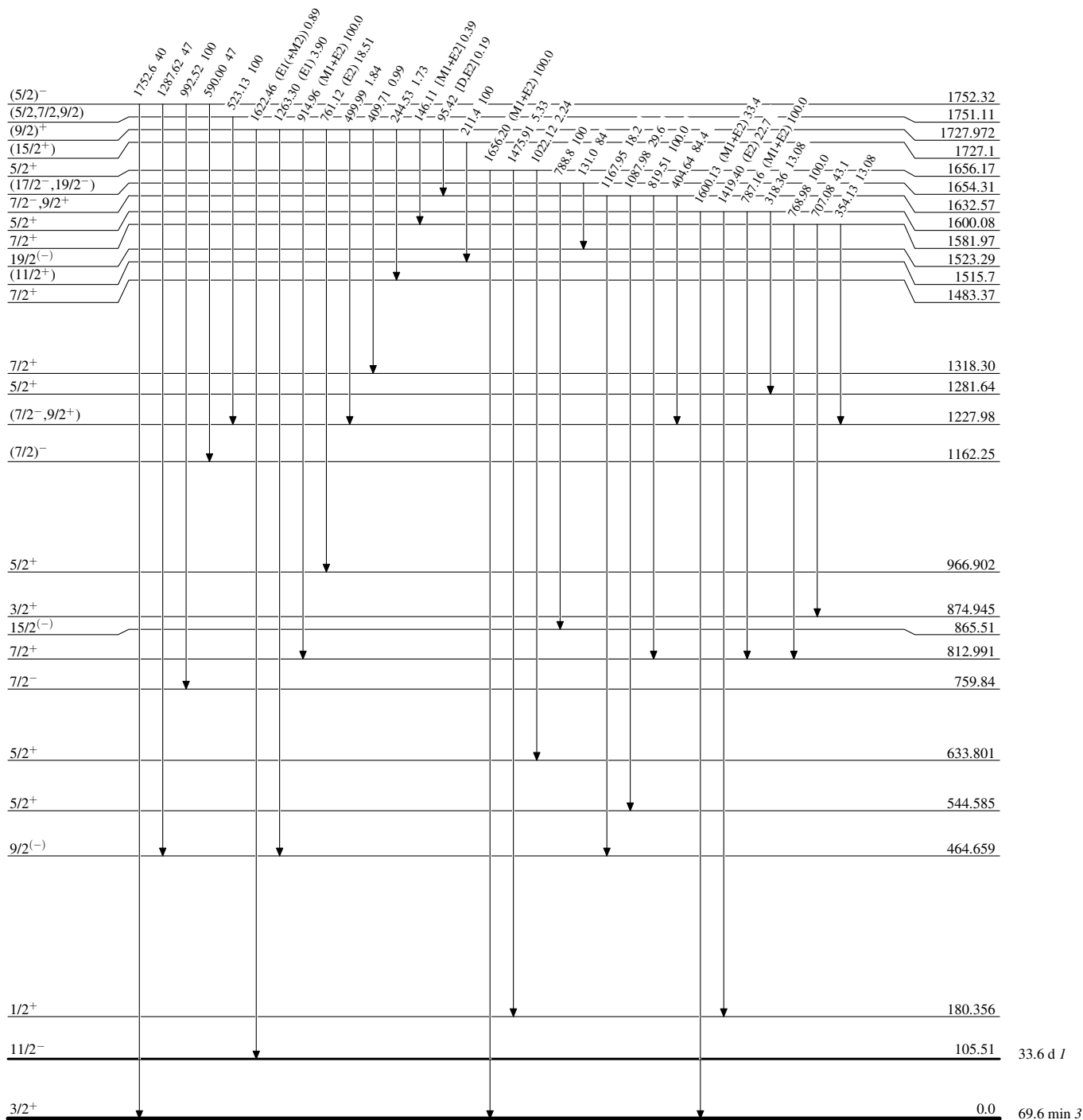
Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given
@ Multiply placed: intensity suitably divided

-----> γ Decay (Uncertain)



Adopted Levels, GammasLevel Scheme (continued)

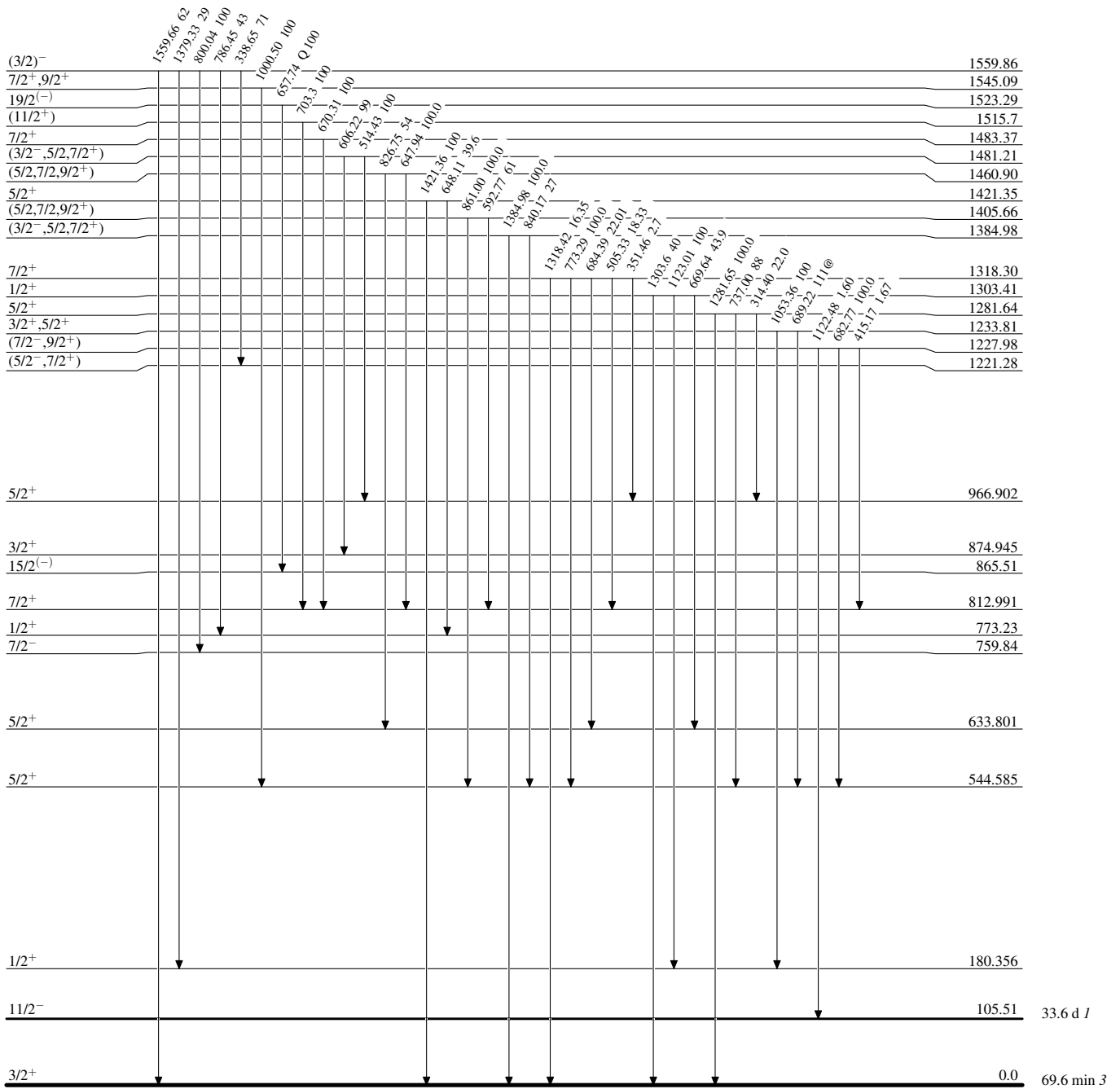
Intensities: Relative photon branching from each level
 & Multiply placed: undivided intensity given
 @ Multiply placed: intensity suitably divided

 $^{129}_{52}\text{Te}_{77}$

Adopted Levels, Gammas

Level Scheme (continued)

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



$^{129}_{52}\text{Te}_{77}$

Adopted Levels, GammasLevel Scheme (continued)

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

