

Adopted Levels, Gammas

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen	NDS 188,1 (2023)	17-Jan-2023

Q(β^-)=2810.3 28; S(n)=5835 3; S(p)=11641.4 29; Q(α)=-6011 4 [2021Wa16](#)

S(2n)=15053.5 28, S(2p)=21928 5 ([2021Wa16](#)).

Measured S(n)=5832.60 keV 4 ([2015BaZY](#)) from ⁷⁰Zn(n, γ), but details of this work are not available.

⁷¹Zn isotope was identified by Hughes et al., ANL reports, CP-3647 and Cf-3574 (1946) through neutron capture in ⁷⁰Zn and in cross bombardments, decaying with T_{1/2}=2.2 min. Identification of ⁷¹Zn publication of this isotope was by [1955Le03](#) using neutron capture. Later works: [1958Le26](#), [1961Th04](#) and several others up to 1999, investigating details of the decay scheme of ⁷¹Zn.

The isomer in ⁷¹Zn was first identified by [1955Le03](#) using neutron capture in ⁷⁰Zn, half-life was first measured by [1958Le26](#).

Many later works studied details of the level scheme of this isomer decay.

[2015BaZY](#): ⁷⁰Zn(n, γ),E=slow neutrons, measured E γ , I γ , $\gamma\gamma$ -coin using ILL Ge detector array EXILL. Details of this work are not available.

Mass measurement (Penning trap): [2008Ba54](#): mass of ⁷¹Zn isomer.

[Additional information 1](#).

Theoretical calculations:

[2018Ya11](#): calculated potential energy surfaces (PES) of high-spin states using Monte Carlo shell model.

[2005Ji06](#), [2003Ji09](#): calculated binding energy, radius, deformation, superdeformed configurations using relativistic mean-field approach.

[2003Ho02](#): quasiparticle+phonon model calculations up to 1.8 MeV excitations and spins of 1/2 to 13/2. The g.s. and first excited state are predicted as 1/2⁻ and 9/2⁺, respectively. Higher states are ascribed to phonon couplings with quasiparticle states.

⁷¹Zn Levels

Cross Reference (XREF) Flags

A	⁷¹ Cu β^- decay (19.4 s)	D	⁷⁰ Zn(⁴⁸ Ca, ⁴⁷ Ca), ¹⁹⁷ Au(⁷⁰ Zn,X γ)
B	⁷⁰ Zn(n, γ),(n,n):resonances	E	⁷⁰ Zn(²³⁸ U,X γ)
C	⁷⁰ Zn(d,p)		

E(level) [†]	J π^{\ddagger}	T _{1/2} ^c	XREF	Comments
0.0	1/2 ⁻	2.42 min 10	A C E	$\% \beta^- = 100$ $\mu = +0.551$ 1 (2017Wr01 , 2019StZV) Measured isotope shift (2019Xi07 , collinear laser spectroscopy): $\delta\nu(^{68}\text{Zn}, ^{71}\text{Zn}) = 108.8$ MHz 24(stat) 44(syst). Measured change in radius (2019Xi07 , collinear laser spectroscopy): $\delta \langle r^2 \rangle (^{68}\text{Zn}, ^{71}\text{Zn}) = 0.227$ fm ² 7(stat) 23(syst). μ : hyperfine structure by collinear laser spectroscopy at ISOLDE-CERN (2017Wr01). See also 2017Ne04 review article about Collinear laser spectroscopy measurements at ISOLDE-CERN. J^π : 1/2 from measurement of hyperfine structure by collinear laser spectroscopy at ISOLDE-CERN (2017Wr01). Parity from L(d,p)=1 from 0 ⁺ target. Quasiparticle+phonon model calculations (2003Ho02) predict 1/2 ⁻ g.s. Probable pure quasineutron state involving p _{1/2} orbital (2003Ho02). T _{1/2} : from γ decay curves. Weighted average of 2.36 min 14 (2017Kr01) and 2.45 min 10 (1961Th04). Others: 2.2 min (1962Ma24), 2.3 min (1958Le26), 2.2 min (1955Le03).
155.62 ^d 6	9/2 ⁺	4.140 h 15	A CD	$\% \beta^- = 100$; $\% \text{IT} \leq 0.05$ (1970Zo01) $\mu = -1.048$ 1 (2017Wr01 , 2019StZV) $Q = -0.26$ 3 (2017Wr01 , 2021StZZ) Measured isotope shift (2019Xi07 , collinear laser spectroscopy): $\delta\nu(^{68}\text{Zn}, ^{71}\text{Zn}) = 96.3$ MHz 11(stat) 43(syst). Measured change in radius (2019Xi07 , collinear laser spectroscopy):

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Adopted Levels, Gammas (continued)

⁷¹Zn Levels (continued)

E(level) [†]	J ^π [‡]	T _{1/2} ^c	XREF	Comments
				<p>$\delta\langle r^2 \rangle(^{68}\text{Zn}, ^{71}\text{Zn})=0.191 \text{ fm}^2$ 3(stat) 23(syst). μ, Q: hyperfine structure by collinear laser spectroscopy at ISOLDE-CERN (2017Wr01). Other: (-)1.052 6 (NMR on oriented nuclei, 1989He05, authors' value of 1.035 18 revised by 1992Be51 based on their measurement of magnetic moment of ⁶⁵Zn and improved determination of Zn hyperfine field in Fe; negative sign proposed by 1989He05 from theoretical magnetic moment). See also 2017Ne04 review article about Collinear laser spectroscopy measurements at ISOLDE-CERN. E(level): from ⁷⁰Zn(n,γ) data in 2015BaZY, but details of this work are not available. J^π: spin from measurement of hyperfine structure by collinear laser spectroscopy at ISOLDE-CERN (2017Wr01). Parity from L(d,p)=4 from 0⁺ target. Quasiparticle+phonon model calculations (2003Ho02) predict 9/2⁺ as the first excited state, with probable pure quasineutron configuration=1g_{9/2}³ (2003Ho02,1989He05). T_{1/2}: from γ decay curves. Unweighted average of 4.155 h 4 (2017Kr01) and 4.125 h 7 (2012Re05). Others: 1967Vi08; 4.1 h 1 (1964So01); 4.0 h 1 (1961Th04); 4.1 h 1 (1959La04); 3.92 h 5 (1958Le26, β^- counting using a Geiger counter, this value seems discrepant). J^π: L(d,p)=2; γ to 9/2⁺; probable pure d_{5/2} neutron state (2003Ho02). T_{1/2}: from $\gamma\gamma(t)$ in (n,γ) (2015BaZY, details of this work are not available).</p>
284.23 21	(5/2) ⁺	≈40 ns	A C	
353.0 ^e 8	(7/2 ⁺)		D	
468.4 [#] 8	5/2 ⁻	≥20 ps	C E	J ^π : L(d,p)=3; γ to 1/2 ⁻ ; RUL.
490.0 [#] 3	3/2 ⁻ , 1/2 ⁻	5.1 ps 14	A C E	XREF: E(?). J ^π : L(d,p)=1. 3/2 ⁻ preferred by 2015Ce03 from comparison of experimental B(M1)(W.u.) and shell model calculations, but authors cautioned that this argument could not be used to assign J ^π of this level.
674.7 3	(3/2) ⁻	≤0.42 ps	A C E	XREF: E(?). J ^π : L(d,p)=1; parent of 12272, 3/2 ⁻ IAR in ⁷¹ Ga from ⁷⁰ Zn(pol p,p). J ^π : L(d,p)=2; parent of 12461, 5/2 ⁺ IAR in ⁷¹ Ga from ⁷⁰ Zn(pol p,p). E(level): unresolved in (d,p).
853 5	(5/2) ⁺		C	
1052 ^a 10			C	
1078 ^a 10			C	
1135.8 ^e 8	(11/2 ⁺)		D	
1146.8 ^d 9	(13/2 ⁺)		D	
1261.2 5	(5/2) ⁺		A C E	XREF: E(?). J ^π : L(d,p)=2; parent of 12870, 5/2 ⁺ IAR in ⁷¹ Ga from ⁷⁰ Zn(pol p,p). J ^π : L(d,p)=1; parent of 13020, 3/2 ⁻ IAR in ⁷¹ Ga from ⁷⁰ Zn(pol p,p). J ^π : L(d,p)=0. J ^π : L(d,p)=2; parent of 13275, 5/2 ⁺ IAR in ⁷¹ Ga from ⁷⁰ Zn(pol p,p).
1421 10	(3/2) ⁻		C	
1629 10	1/2 ⁺		C	
1661 10	(5/2) ⁺		C	
1742 ^a 10			C	
1790.0 ^a 7	(1/2,3/2,5/2 ⁻)		A C	XREF: C(?). J ^π : γ to 1/2 ⁻ .
1856.4 5	(3/2 ⁺ , 5/2 ⁺)&		A C E	XREF: C(?)E(?).
2166.5 ^e 10	(15/2 ⁺)		D	
2179.2 5	(5/2) ⁺		A C	J ^π : L(d,p)=2; parent of 13781, 5/2 ⁺ IAR in ⁷¹ Ga from ⁷⁰ Zn(pol p,p).
2250.2 ^d 14	(17/2 ⁺)		D	
2376.8 5	1/2 ⁺		A C	J ^π : L(d,p)=0.
2417 10	3/2 ⁺ , 5/2 ⁺ @		C	
2523 [#] 10	3/2 ⁺ , 5/2 ⁺ @		C	
2538 [#] 10	(3/2 ⁺ , 5/2 ⁺)&		C	
2612 10	3/2 ⁺ , 5/2 ⁺ @		C	

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Adopted Levels, Gammas (continued)
 ^{71}Zn Levels (continued)

E(level) [†]	J ^π [‡]	XREF	Comments
2713 10	3/2 ⁺ ,5/2 ⁺ @	C	
2752 10	3/2 ⁺ ,5/2 ⁺ @	C	
2879.9 ^e 14	(19/2 ⁺)	D	
3039 10	3/2 ⁺ ,5/2 ⁺ @	C	
3098 10	3/2 ⁺ ,5/2 ⁺ @	C	
3178 10	3/2 ⁺ ,5/2 ⁺ @	C	
3350 ^a 10	(1/2 ⁺)	C	J ^π : L(d,p)=(0).
3412 ^a 10	(3/2 ⁺ ,5/2 ⁺)&	C	
3498 ^a 10	(1/2 ⁺)	C	J ^π : L(d,p)=(0).
3626 ^a 10	(3/2 ⁺ ,5/2 ⁺)&	C	
3626.8 ^d 17	(21/2 ⁺)	D	
3654 ^a 10		C	
3746 ^a 10		C	
3765 ^a 10		C	
3779 ^a 10		C	
3842 ^a 10		C	
3860 ^a 10		C	
3890 ^a 10		C	
3896.3 ^e 17	(23/2 ⁺)	D	
3926 ^a 10		C	
4777.5 ^d 20	(25/2 ⁺)	D	
5835.9	1/2 ⁺ ^b	B	
5845.649 5	1/2 ⁻ ,3/2 ^{-b}	B	
5846.902 5	1/2 ⁻ ,3/2 ^{-b}	B	
5847.169 5	1/2 ⁺ ^b	B	
5847.857 5	1/2 ⁻ ,3/2 ^{-b}	B	
5848.184 5	1/2 ⁻ ,3/2 ^{-b}	B	
5852.703 5	1/2 ⁺ ^b	B	
5857.428 10	1/2 ⁻ ,3/2 ^{-b}	B	
5857.632 10	1/2 ⁺ ^b	B	
5866.162 10	1/2 ⁻ ,3/2 ^{-b}	B	
5866.277 10	1/2 ⁻ ,3/2 ^{-b}	B	
5866.453 1	1/2 ⁺ ^b	B	
5872.39 1	1/2 ⁻ ,3/2 ^{-b}	B	
5878.577 15	1/2 ⁺ ^b	B	
5885.904 15	1/2 ⁺ ^b	B	
5889.684 15	1/2 ⁺ ^b	B	
5890.225 15	1/2 ⁻ ,3/2 ^{-b}	B	
5890.304 15	1/2 ⁻ ,3/2 ^{-b}	B	
5893.201 15	1/2 ⁻ ,3/2 ^{-b}	B	
5893.916 15	1/2 ⁺ ^b	B	
5895.140 20	1/2 ⁺ ^b	B	
5896.638 20	1/2 ⁻ ,3/2 ^{-b}	B	
5905.080 20	1/2 ⁺ ^b	B	
5912.52 2	1/2 ⁺ ^b	B	

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Adopted Levels, Gammas (continued)

⁷¹Zn Levels (continued)

E(level) [†]	J ^{π‡}	XREF	E(level) [†]	J ^{π‡}	XREF	E(level) [†]	J ^{π‡}	XREF
5917.964 20	1/2 ⁻ ,3/2 ^{-b}	B	5971.50 3	1/2 ⁺ ^b	B	6011.57 4	1/2 ⁻ ,3/2 ^{-b}	B
5918.461 20	1/2 ⁺ ^b	B	5971.79 3	1/2 ⁻ ,3/2 ^{-b}	B	6013.71 4	1/2 ⁻ ,3/2 ^{-b}	B
5918.765 20	1/2 ⁻ ,3/2 ^{-b}	B	5974.63 3	1/2 ⁺ ^b	B	6013.95 4	1/2 ⁻ ,3/2 ^{-b}	B
5921.897 20	1/2 ⁻ ,3/2 ^{-b}	B	5975.70 3	1/2 ⁻ ,3/2 ^{-b}	B	6016.54 4	1/2 ⁺ ^b	B
5923.972 20	1/2 ⁻ ,3/2 ^{-b}	B	5976.36 3	1/2 ⁻ ,3/2 ^{-b}	B	6017.41 4	1/2 ⁻ ,3/2 ^{-b}	B
5925.137 20	1/2 ⁺ ^b	B	5976.49 3	1/2 ⁻ ,3/2 ^{-b}	B	6021.34 4	1/2 ⁻ ,3/2 ^{-b}	B
5925.91 2	1/2 ⁺ ^b	B	5977.70 3	1/2 ⁺ ^b	B	6023.88 4	1/2 ⁺ ^b	B
5928.078 20		B	5978.22 3	1/2 ⁻ ,3/2 ^{-b}	B	6026.36 4	1/2 ⁺ ^b	B
5932.29 2	1/2 ⁻ ,3/2 ^{-b}	B	5978.58 3	1/2 ⁻ ,3/2 ^{-b}	B	6026.96 4	1/2 ⁻ ,3/2 ^{-b}	B
5935.25 3	1/2 ⁻ ,3/2 ^{-b}	B	5979.10 3	1/2 ⁻ ,3/2 ^{-b}	B	6031.24 4	1/2 ⁻ ,3/2 ^{-b}	B
5936.53 3	1/2 ⁻ ,3/2 ^{-b}	B	5979.47 3	1/2 ⁻ ,3/2 ^{-b}	B	6035.71 5	1/2 ⁺ ^b	B
5939.52 3	1/2 ⁺ ^b	B	5981.17 3	1/2 ⁻ ,3/2 ^{-b}	B	6036.34 4	1/2 ⁻ ,3/2 ^{-b}	B
5940.42 3	1/2 ⁻ ,3/2 ^{-b}	B	5982.10 3	1/2 ⁻ ,3/2 ^{-b}	B	6037.11 4	1/2 ⁻ ,3/2 ^{-b}	B
5940.87 3	1/2 ⁺ ^b	B	5983.48 4	1/2 ⁻ ,3/2 ^{-b}	B	6037.63 5	1/2 ⁺ ^b	B
5946.52 3	1/2 ⁺	B	5985.24 4	1/2 ⁻ ,3/2 ^{-b}	B	6039.92 5	1/2 ⁻ ,3/2 ^{-b}	B
5946.81 3	1/2 ⁻ ,3/2 ^{-b}	B	5985.71 4	1/2 ⁺ ^b	B	6040.25 5	1/2 ⁻ ,3/2 ^{-b}	B
5946.95 3	1/2 ⁻ ,3/2 ^{-b}	B	5986.25 4	1/2 ⁺ ^b	B	6040.85 5	1/2 ⁻ ,3/2 ^{-b}	B
5947.11 3	1/2 ⁻ ,3/2 ^{-b}	B	5987.71 4	1/2 ⁻ ,3/2 ^{-b}	B	6041.76 5	1/2 ⁻ ,3/2 ^{-b}	B
5947.60 3	1/2 ⁻ ,3/2 ^{-b}	B	5988.15 4	1/2 ⁻ ,3/2 ^{-b}	B	6042.39 5	1/2 ⁻ ,3/2 ^{-b}	B
5948.13 3	1/2 ⁻ ,3/2 ^{-b}	B	5990.46 4	1/2 ⁻ ,3/2 ^{-b}	B	6043.95 5	1/2 ⁻ ,3/2 ^{-b}	B
5948.53 3	1/2 ⁻ ,3/2 ^{-b}	B	5995.52 3	1/2 ⁻ ,3/2 ^{-b}	B	6044.85 5	1/2 ⁻ ,3/2 ^{-b}	B
5949.97 3	1/2 ⁺ ^b	B	5995.81 4	1/2 ⁺ ^b	B	6045.56 5	1/2 ⁻ ,3/2 ^{-b}	B
5952.63 3	1/2 ⁻ ,3/2 ^{-b}	B	5997.79 4	1/2 ⁻ ,3/2 ^{-b}	B	6047.44 5	1/2 ⁻ ,3/2 ^{-b}	B
5952.98 3	1/2 ⁺ ^b	B	5997.96 4	1/2 ⁻ ,3/2 ^{-b}	B	6047.76 5	1/2 ⁻ ,3/2 ^{-b}	B
5960.76 3	1/2 ⁺ ^b	B	5999.21 4	1/2 ⁻ ,3/2 ^{-b}	B	6048.23 5	1/2 ⁻ ,3/2 ^{-b}	B
5962.90 3	1/2 ⁻ ,3/2 ^{-b}	B	6001.33 4	1/2 ⁻ ,3/2 ^{-b}	B	6048.76 5	1/2 ⁻ ,3/2 ^{-b}	B
5963.91 3	1/2 ⁻ ,3/2 ^{-b}	B	6003.87 4	1/2 ⁻ ,3/2 ^{-b}	B	6049.17 5	1/2 ⁻ ,3/2 ^{-b}	B
5964.03 3	1/2 ⁻ ,3/2 ^{-b}	B	6004.25 4	1/2 ⁻ ,3/2 ^{-b}	B	6049.97 5	1/2 ⁻ ,3/2 ^{-b}	B
5965.75 3	1/2 ⁺ ^b	B	6005.59 4	1/2 ⁻ ,3/2 ^{-b}	B	6051.23 5	1/2 ⁺ ^b	B
5967.00 3	1/2 ⁻ ,3/2 ^{-b}	B	6008.63 4	1/2 ⁺ ^b	B	6052.88 5	1/2 ⁺ ^b	B
5968.14 3	1/2 ⁻ ,3/2 ^{-b}	B	6009.81 4	1/2 ⁻ ,3/2 ^{-b}	B	6272.7 ^d 22	(29/2 ⁺)	D
5970.32 3	1/2 ⁻ ,3/2 ^{-b}	B	6011.00 4	1/2 ⁻ ,3/2 ^{-b}	B			
5971.39 3	1/2 ⁻ ,3/2 ^{-b}	B	6011.39 4	1/2 ⁻ ,3/2 ^{-b}	B			

[†] From E_γ data for levels connected by γ transitions; for neutron-unbound levels, uncertainties are relative and the same as on E(n)(lab) values given by 2018MuZY. Absolute uncertainty is 3 keV for each of these level energies, based on this uncertainty the S(n)(⁷⁰Zn)=5835 3 (2021Wa16).

[‡] For neutron-unbound levels (E>5834), assignment of 1/2⁻,3/2⁻ from L=1 and 1/2⁺ from L=0 for the neutron resonances.

465+489 levels and 2523+2538 levels form unresolved doublets in (d,p).

@ L(d,p)=2 from 0⁺ target.

& L(d,p)=(2) from 0⁺ target.

^a According to 1967Vo05, data are incomplete or the spectra suffered from contaminations.

^b From L=0 or 1 in ⁷⁰Zn(n,γ),(n,n):resonances.

^c For excited states, values are from recoil-distance Doppler-shift (RDDS) method in ⁷⁰Zn(²³⁸U,Xγ) (2015Ce03), except where

Adopted Levels, Gammas (continued)

⁷¹Zn Levels (continued)

noted.

^d Band(A): Band built on 9/2⁺.

^e Band(B): Band built on 7/2⁺.

<u>γ(⁷¹Zn)</u>								
<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.</u>	<u>α[#]</u>	<u>Comments</u>
155.62	9/2 ⁺	(155.62 6)		0.0	1/2 ⁻	[M4]	6.63 9	α(K)=5.58 8; α(L)=0.911 13; α(M)=0.1322 19 α(N)=0.00392 6 B(M4)(W.u.)<3.5 E _γ : from level energy in ⁷⁰ Zn(n,γ) (2015BaZY). I _γ (156γ from IT decay)/I _γ (386.28γ from β decay) ≤ 5×10 ⁻⁵ (1970Zo01).
284.23	(5/2) ⁺	128.6 2	100	155.62	9/2 ⁺	[E2]	0.254 4	B(E2)(W.u.)≈18 α(K)=0.2241 34; α(L)=0.0257 4; α(M)=0.00364 6 α(N)=0.0001193 18
353.0	(7/2 ⁺)	197.4 [‡]		155.62	9/2 ⁺	(D+Q)		B(E2)(W.u.)≤72
468.4	5/2 ⁻	468.4 8	100	0.0	1/2 ⁻	[E2]	0.00244 4	E _γ : from (²³⁸ U,Xγ).
490.0	3/2 ⁻ ,1/2 ⁻	490.0 4	100	0.0	1/2 ⁻	[M1,E2]	0.0016 5	If M1, B(M1)(W.u.)=0.037 +14-8. If E2, B(E2)(W.u.)=2.3×10 ² +8-5. E _γ : weighted average of 489.7 4 from ⁷¹ Cu β ⁻ decay and 490.4 5 from (²³⁸ U,Xγ).
674.7	(3/2) ⁻	184.8 3	21 6	490.0	3/2 ⁻ ,1/2 ⁻	[M1]	0.0122 2	If M1, B(M1)(W.u.)≥0.99. If E2, B(E2)(W.u.)≥42277, which exceeds RUL=300 by a very large factor, thus the transition is likely M1.
		674.8 3	100 10	0.0	1/2 ⁻	[M1+E2]		E _γ : weighted average of 674.8 3 from ⁷¹ Cu β ⁻ decay and 674.3 8 from (²³⁸ U,Xγ).
1135.8	(11/2 ⁺)	782.8 [‡]		353.0	(7/2 ⁺)			
		980.2 [‡]		155.62	9/2 ⁺	(D)		
1146.8	(13/2 ⁺)	991.2 [‡]		155.62	9/2 ⁺	(Q)		
1261.2	(5/2) ⁺	586.6 4	100	674.7	(3/2) ⁻			E _γ : weighted average of 586.5 4 from ⁷¹ Cu β ⁻ decay and 584.9 15 from (²³⁸ U,Xγ).
1790.0	(1/2,3/2,5/2 ⁻)	1298 [@]		490.0	3/2 ⁻ ,1/2 ⁻			
		1791.3 8	100	0.0	1/2 ⁻			
1856.4	(3/2 ⁺ ,5/2 ⁺)	594.8 4	100	1261.2	(5/2) ⁺			E _γ : weighted average of 595.2 5 from ⁷¹ Cu β ⁻ decay and 594.5 4 from (²³⁸ U,Xγ).

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Adopted Levels, Gammas (continued) $\gamma(^{71}\text{Zn})$ (continued)

$E_i(\text{level})$	J_i^π	E_γ^\dagger	I_γ^\dagger	E_f	J_f^π
2166.5	(15/2 ⁺)	1019.7 [‡]		1146.8	(13/2 ⁺)
		1030.7 [‡]		1135.8	(11/2 ⁺)
2179.2	(5/2 ⁺)	1504.8 5	100 26	674.7	(3/2 ⁻)
		2021.7 12	36 24	155.62	9/2 ⁺
2250.2	(17/2 ⁺)	1103.4 [‡]		1146.8	(13/2 ⁺)
2376.8	1/2 ⁺	197.5 2	100 11	2179.2	(5/2 ⁺)
		520.4 3	42 17	1856.4	(3/2 ⁺ , 5/2 ⁺)
2879.9	(19/2 ⁺)	713.4		2166.5	(15/2 ⁺)
3626.8	(21/2 ⁺)	1376.5		2250.2	(17/2 ⁺)
3896.3	(23/2 ⁺)	1016.3		2879.9	(19/2 ⁺)
4777.5	(25/2 ⁺)	1150.7		3626.8	(21/2 ⁺)
6272.7	(29/2 ⁺)	1495.2		4777.5	(25/2 ⁺)

[†] From ^{71}Cu β^- decay, unless otherwise noted.

[‡] From ^{70}Zn (^{48}Ca , ^{47}Ca), ^{197}Au (^{70}Zn , $X\gamma$).

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

@ Placement of transition in the level scheme is uncertain.

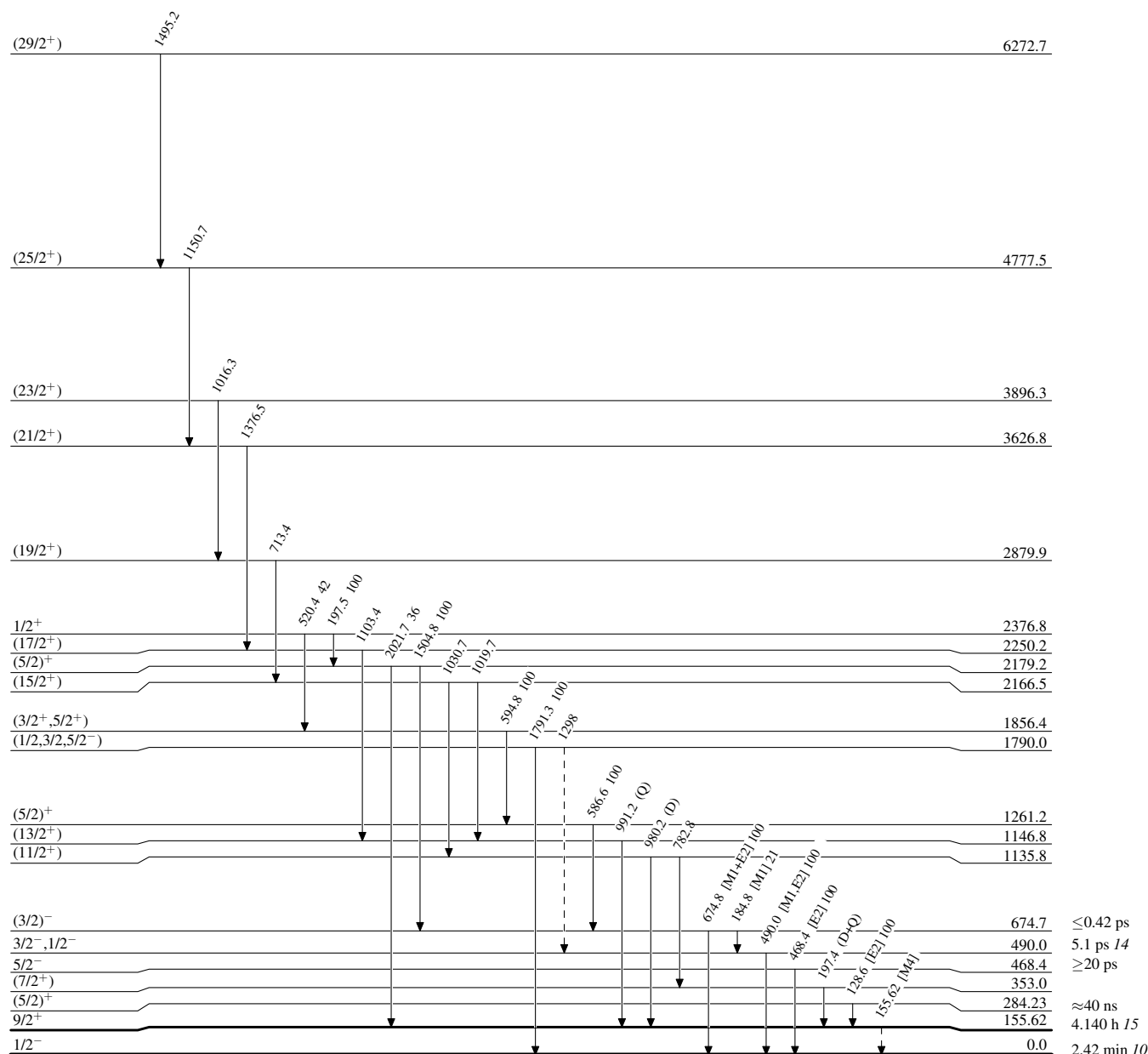
Adopted Levels, Gammas

Legend

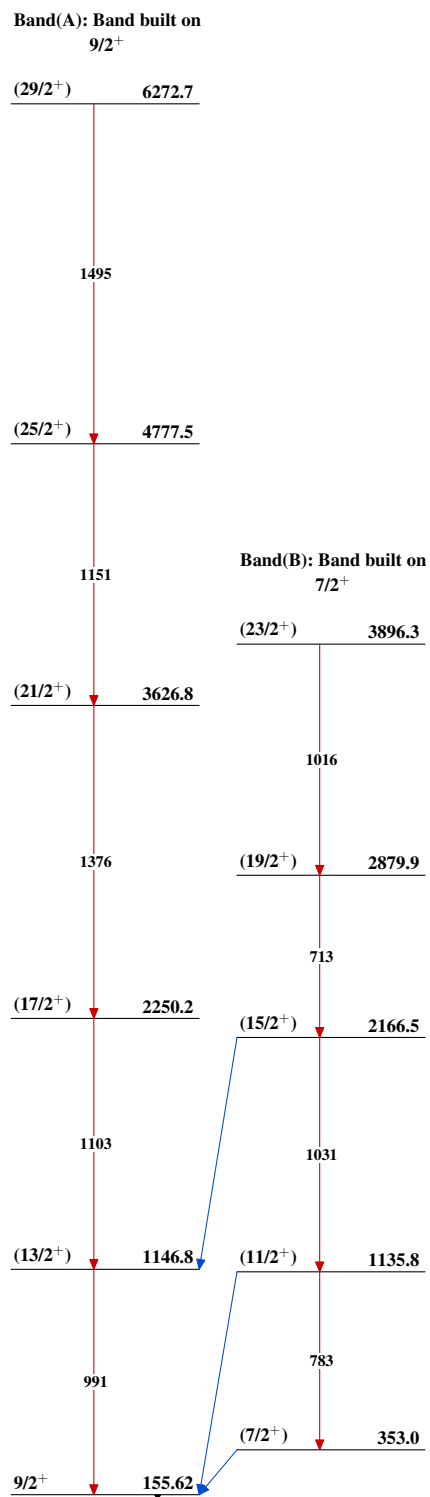
Level Scheme

Intensities: Relative photon branching from each level

-----▶ γ Decay (Uncertain)



$^{71}_{30}\text{Zn}_{41}$

Adopted Levels, Gammas ${}^{71}_{30}\text{Zn}_{41}$