

$^{232}\text{Th}(n,\gamma)$ E=2,24 keV 1979Je01

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	B. Singh, J. K. Tuli, E. Browne		NDS 170, 499 (2020)	8-Oct-2020

1979Je01: neutron beam from HFBR at BNL, measured primary γ rays from 2-keV and 24-keV average resonance captures using Ge(Li) detector. The energy calibration to known γ rays from low-lying levels in ^{233}Th and in ^{228}Th contaminant. Predominantly s-wave captures contribute to the 2-keV resonance, and p- and s-wave captures are involved for the 24-keV resonance states.

[Additional information 1.](#)

 ^{233}Th Levels

E(level) [†]	J π [‡]
0.0	1/2 ⁺ ,3/2 ⁺
6.0 3	5/2 ⁺
16.9 3	1/2 ⁺ ,3/2 ⁺
53.9 2	5/2 ⁺
261.0 4	5/2 ⁺
336.0 3	1/2 ⁺ ,3/2 ⁺
372.2 4	5/2 ⁺
539.6	1/2 ⁻ ,3/2 ⁻
572.6 2	1/2 ⁻ ,3/2 ⁻
583.1 5	1/2,3/2
586.0 2	1/2 ⁻ ,3/2 ⁻
612.1 4	1/2 ⁺ ,3/2 ⁺
628.9 7	5/2 ⁺
681.8 2	1/2 ⁻ ,3/2 ⁻
713.4 3	1/2 ⁺ ,3/2 ⁺
722.0 4	1/2 ⁺ ,3/2 ⁺
741.5 3	1/2 ⁻ ,3/2 ⁻
767.8 5	1/2 ⁺ ,3/2 ⁺
781.9 7	1/2 ⁺ ,3/2 ⁺
814.6 3	1/2 ⁺ ,3/2 ⁺
840.9 2	1/2 ⁻ ,3/2 ⁻
851.9? 6	(5/2) ⁺
861.6 5	1/2 ⁺ ,3/2 ⁺
873.1 10	(5/2) ⁺
885.1 10	5/2 ⁺
891.6 5	1/2 ⁺ ,3/2 ⁺
904.6 5	1/2 ⁺ ,3/2 ⁺
918.3 12	1/2 ⁻ ,3/2 ⁻
924.7 4	1/2 ⁻ ,3/2 ⁻
947.4 4	1/2,3/2
957.6 12	(5/2) ⁺
968.7 6	1/2 ⁺ ,3/2 ⁺
984.9 6	1/2 ⁺ ,3/2 ⁺
1013.4 3	1/2 ⁻ ,3/2 ⁻
1031.2 3	1/2 ⁻ ,3/2 ⁻
1039.9? 4	1/2,3/2
1050.4 3	1/2 ⁻ ,3/2 ⁻
1061.3 6	1/2 ⁺ ,3/2 ⁺
1074.3 3	1/2 ⁻ ,3/2 ⁻
1087.4 5	1/2 ⁽⁺⁾ ,3/2 ⁽⁺⁾
1101.8 8	1/2 ⁺ ,3/2 ⁺
1115.3 7	1/2 ⁺ ,3/2 ⁺
1133.4 6	1/2 ⁺ ,3/2 ⁺
1151.0 4	1/2 ⁻ ,3/2 ⁻

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$^{232}\text{Th}(n,\gamma)$ E=2,24 keV **1979Je01** (continued) ^{233}Th Levels (continued)

E(level) [†]	J ^π [‡]	Comments
1171.8 8	1/2 ⁻ ,3/2 ⁻	
1184.5 5	1/2 ⁽⁺⁾ ,3/2 ⁽⁺⁾	
1212.5 12	1/2,3/2,5/2 ⁺	
1225.7 7	1/2 ⁺ ,3/2 ⁺	
1257.1 4	1/2 ⁻ ,3/2 ⁻	
1262.3 4	1/2 ⁻ ,3/2 ⁻	
1282.7 6	1/2 ⁻ ,3/2 ⁻	
1293.4 4	1/2 ⁻ ,3/2 ⁻	
1304.8 6	1/2 ⁺ ,3/2 ⁺	
1312.8 3	1/2 ⁻ ,3/2 ⁻	
1330.2? 6	1/2,3/2	
1338.5 4	1/2 ⁻ ,3/2 ⁻	
1350.6 5	1/2 ⁻ ,3/2 ⁻	
1389.8 6	1/2 ⁻ ,3/2 ⁻	
1394.8 6	1/2 ⁻ ,3/2 ⁻	
1446.5 6	1/2,3/2	
1459.2 6	1/2 ⁽⁻⁾ ,3/2 ⁽⁻⁾	
1479.1 4	1/2 ⁻ ,3/2 ⁻	
1497.8 4	1/2 ⁻ ,3/2 ⁻	
1532.7 8	1/2,3/2	
1580.2 8	1/2 ⁽⁻⁾ ,3/2 ⁽⁻⁾	
1588.2 5	1/2 ⁻ ,3/2 ⁻	
1668.0 12	1/2 ⁺ ,3/2 ⁺	
1688.7 13	1/2 ⁺ ,3/2 ⁺	
1698 2	1/2 ⁽⁻⁾ ,3/2 ⁽⁻⁾	
1717.4 4	1/2 ⁻ ,3/2 ⁻	
1728.0 4	1/2 ⁻ ,3/2 ⁻	
(4788.4)	1/2,3/2 ⁻	E(level): S(n)+E(n), where S(n)=4786.39 9 (2017Wa10), E(n)=2 keV. J ^π : s-wave and p-wave capture in 0 ⁺ g.s. of ^{232}Th ; s-wave capture is expected to be dominant.
(4810.4)	1/2,3/2 ⁻	E(level): S(n)+E(n), where S(n)=4786.39 9 (2017Wa10), E(n)=24 keV. J ^π : s-wave and p-wave capture in 0 ⁺ g.s. of ^{232}Th ; s-wave capture is expected to be dominant.

[†] Deduced by 1979Je01 on the basis that the 4248.8 γ in the 2-keV capture populates the level at 539.6 keV, the 4793.7 γ in the 24-keV capture populates the level at 16.87 keV.

[‡] Assigned by 1979Je01 from comparison of primary I _{γ} values from 2- and 24-keV neutron captures.

 $\gamma(^{233}\text{Th})$

E _{γ} [†]	I _{γ} [‡]	E _i (level)	J _{i} ^π	E _f	J _{f} ^π
3060.3 4	54 16	(4788.4)	1/2,3/2 ⁻	1728.0	1/2 ⁻ ,3/2 ⁻
3070.9 4	72 22	(4788.4)	1/2,3/2 ⁻	1717.4	1/2 ⁻ ,3/2 ⁻
3082.3 @ 4	<20	(4810.4)	1/2,3/2 ⁻	1728.0	1/2 ⁻ ,3/2 ⁻
3089.2 # @ 8	47 19	(4788.4)	1/2,3/2 ⁻	1698	1/2 ⁽⁻⁾ ,3/2 ⁽⁻⁾
3092.9 @ 4	<20	(4810.4)	1/2,3/2 ⁻	1717.4	1/2 ⁻ ,3/2 ⁻
3099.6 13	17 7	(4788.4)	1/2,3/2 ⁻	1688.7	1/2 ⁺ ,3/2 ⁺
3111.2 # @ 8	19 8	(4810.4)	1/2,3/2 ⁻	1698	1/2 ⁽⁻⁾ ,3/2 ⁽⁻⁾
3120.3 12	18 8	(4788.4)	1/2,3/2 ⁻	1668.0	1/2 ⁺ ,3/2 ⁺
3121.6 13	16 6	(4810.4)	1/2,3/2 ⁻	1688.7	1/2 ⁺ ,3/2 ⁺
3142.3 @ 12	<20	(4810.4)	1/2,3/2 ⁻	1668.0	1/2 ⁺ ,3/2 ⁺
3200.1 5	95 29	(4788.4)	1/2,3/2 ⁻	1588.2	1/2 ⁻ ,3/2 ⁻

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$^{232}\text{Th}(n,\gamma) E=2,24 \text{ keV}$ **1979Je01 (continued)** $\gamma(^{233}\text{Th})$ (continued)

E_γ †	I_γ ‡	$E_i(\text{level})$	J_i^π	E_f	J_f^π
3208.1 8	48 20	(4788.4)	1/2,3/2 ⁻	1580.2	1/2 ⁽⁻⁾ ,3/2 ⁽⁻⁾
3222.1 5	32 13	(4810.4)	1/2,3/2 ⁻	1588.2	1/2 ⁻ ,3/2 ⁻
3230.1 @ 8	<20	(4810.4)	1/2,3/2 ⁻	1580.2	1/2 ⁽⁻⁾ ,3/2 ⁽⁻⁾
3255.6 8	40 12	(4788.4)	1/2,3/2 ⁻	1532.7	1/2,3/2
3277.6 @ 8	<20	(4810.4)	1/2,3/2 ⁻	1532.7	1/2,3/2
3290.5 4	65 13	(4788.4)	1/2,3/2 ⁻	1497.8	1/2 ⁻ ,3/2 ⁻
3309.2 4	91 19	(4788.4)	1/2,3/2 ⁻	1479.1	1/2 ⁻ ,3/2 ⁻
3312.5 @ 4	<20	(4810.4)	1/2,3/2 ⁻	1497.8	1/2 ⁻ ,3/2 ⁻
3329.1 # @ 6	51 16	(4788.4)	1/2,3/2 ⁻	1459.2	1/2 ⁽⁻⁾ ,3/2 ⁽⁻⁾
3331.2 @ 4	<20	(4810.4)	1/2,3/2 ⁻	1479.1	1/2 ⁻ ,3/2 ⁻
3341.8 6	39 16	(4788.4)	1/2,3/2 ⁻	1446.5	1/2,3/2
3351.1 # @ 6	19 10	(4810.4)	1/2,3/2 ⁻	1459.2	1/2 ⁽⁻⁾ ,3/2 ⁽⁻⁾
3363.8 @ 6	<20	(4810.4)	1/2,3/2 ⁻	1446.5	1/2,3/2
3393.5 # @ 6	66 20	(4788.4)	1/2,3/2 ⁻	1394.8	1/2 ⁻ ,3/2 ⁻
3398.5 # @ 6	62 19	(4788.4)	1/2,3/2 ⁻	1389.8	1/2 ⁻ ,3/2 ⁻
3415.5 # @ 6	<60	(4810.4)	1/2,3/2 ⁻	1394.8	1/2 ⁻ ,3/2 ⁻
3420.5 # @ 6	<30	(4810.4)	1/2,3/2 ⁻	1389.8	1/2 ⁻ ,3/2 ⁻
3437.7 5	62 19	(4788.4)	1/2,3/2 ⁻	1350.6	1/2 ⁻ ,3/2 ⁻
3449.8 4	106 22	(4788.4)	1/2,3/2 ⁻	1338.5	1/2 ⁻ ,3/2 ⁻
3458.1 # @ 6	47 14	(4788.4)	1/2,3/2 ⁻	1330.2?	1/2,3/2
3459.7 @ 5	<30	(4810.4)	1/2,3/2 ⁻	1350.6	1/2 ⁻ ,3/2 ⁻
3471.8 @ 4	<20	(4810.4)	1/2,3/2 ⁻	1338.5	1/2 ⁻ ,3/2 ⁻
3475.5 3	89 18	(4788.4)	1/2,3/2 ⁻	1312.8	1/2 ⁻ ,3/2 ⁻
3480.1 # @ 6	<20	(4810.4)	1/2,3/2 ⁻	1330.2?	1/2,3/2
3483.5 # @ 6	35 14	(4788.4)	1/2,3/2 ⁻	1304.8	1/2 ⁺ ,3/2 ⁺
3494.9 4	90 18	(4788.4)	1/2,3/2 ⁻	1293.4	1/2 ⁻ ,3/2 ⁻
3497.5 3	20 8	(4810.4)	1/2,3/2 ⁻	1312.8	1/2 ⁻ ,3/2 ⁻
3505.5 # @ 6	<20	(4810.4)	1/2,3/2 ⁻	1304.8	1/2 ⁺ ,3/2 ⁺
3505.6 6	84 34	(4788.4)	1/2,3/2 ⁻	1282.7	1/2 ⁻ ,3/2 ⁻
3516.9 @ 4	<20	(4810.4)	1/2,3/2 ⁻	1293.4	1/2 ⁻ ,3/2 ⁻
3526.0 4	52 11	(4788.4)	1/2,3/2 ⁻	1262.3	1/2 ⁻ ,3/2 ⁻
3527.6 @ 6	<60	(4810.4)	1/2,3/2 ⁻	1282.7	1/2 ⁻ ,3/2 ⁻
3531.2 4	82 17	(4788.4)	1/2,3/2 ⁻	1257.1	1/2 ⁻ ,3/2 ⁻
3548.0 4	12 6	(4810.4)	1/2,3/2 ⁻	1262.3	1/2 ⁻ ,3/2 ⁻
3553.2 4	26 13	(4810.4)	1/2,3/2 ⁻	1257.1	1/2 ⁻ ,3/2 ⁻
3562.6 7	25 8	(4788.4)	1/2,3/2 ⁻	1225.7	1/2 ⁺ ,3/2 ⁺
3575.8 # @ 12	17 7	(4788.4)	1/2,3/2 ⁻	1212.5	1/2,3/2,5/2 ⁺
3584.6 7	23 9	(4810.4)	1/2,3/2 ⁻	1225.7	1/2 ⁺ ,3/2 ⁺
3597.8 # @ 12	<20	(4810.4)	1/2,3/2 ⁻	1212.5	1/2,3/2,5/2 ⁺
3603.8 5	44 13	(4788.4)	1/2,3/2 ⁻	1184.5	1/2 ⁽⁺⁾ ,3/2 ⁽⁺⁾
3616.5 8	83 25	(4788.4)	1/2,3/2 ⁻	1171.8	1/2 ⁻ ,3/2 ⁻
3625.8 @ 5	<20	(4810.4)	1/2,3/2 ⁻	1184.5	1/2 ⁽⁺⁾ ,3/2 ⁽⁺⁾
3637.3 4	75 15	(4788.4)	1/2,3/2 ⁻	1151.0	1/2 ⁻ ,3/2 ⁻
3638.5 8	24 10	(4810.4)	1/2,3/2 ⁻	1171.8	1/2 ⁻ ,3/2 ⁻
3654.9 # @ 6	27 11	(4788.4)	1/2,3/2 ⁻	1133.4	1/2 ⁺ ,3/2 ⁺
3659.3 4	19 8	(4810.4)	1/2,3/2 ⁻	1151.0	1/2 ⁻ ,3/2 ⁻
3673.0 # @ 7	28 11	(4788.4)	1/2,3/2 ⁻	1115.3	1/2 ⁺ ,3/2 ⁺
3676.9 # @ 6	<20	(4810.4)	1/2,3/2 ⁻	1133.4	1/2 ⁺ ,3/2 ⁺
3686.5 # @ 8	47 14	(4788.4)	1/2,3/2 ⁻	1101.8	1/2 ⁺ ,3/2 ⁺

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$^{232}\text{Th}(n,\gamma) E=2,24 \text{ keV}$ **1979Je01 (continued)** $\gamma(^{233}\text{Th})$ (continued)

E_γ †	I_γ ‡	$E_i(\text{level})$	J_i^π	E_f	J_f^π
3695.0#@ 7	<20	(4810.4)	1/2,3/2 ⁻	1115.3	1/2 ⁺ ,3/2 ⁺
3700.9#@ 5	42 13	(4788.4)	1/2,3/2 ⁻	1087.4	1/2 ⁽⁺⁾ ,3/2 ⁽⁺⁾
3708.5#@ 8	31 12	(4810.4)	1/2,3/2 ⁻	1101.8	1/2 ⁺ ,3/2 ⁺
3714.0 3	72 11	(4788.4)	1/2,3/2 ⁻	1074.3	1/2 ⁻ ,3/2 ⁻
3722.9#@ 5	11 6	(4810.4)	1/2,3/2 ⁻	1087.4	1/2 ⁽⁺⁾ ,3/2 ⁽⁺⁾
3727.0 6	25 8	(4788.4)	1/2,3/2 ⁻	1061.3	1/2 ⁺ ,3/2 ⁺
3736.0@ 3	<15	(4810.4)	1/2,3/2 ⁻	1074.3	1/2 ⁻ ,3/2 ⁻
3737.9 3	87 13	(4788.4)	1/2,3/2 ⁻	1050.4	1/2 ⁻ ,3/2 ⁻
3748.4#@ 4	56 12	(4788.4)	1/2,3/2 ⁻	1039.9?	1/2,3/2
3749.0@ 6	<15	(4810.4)	1/2,3/2 ⁻	1061.3	1/2 ⁺ ,3/2 ⁺
3757.1 3	89 14	(4788.4)	1/2,3/2 ⁻	1031.2	1/2 ⁻ ,3/2 ⁻
3759.9 3	23 12	(4810.4)	1/2,3/2 ⁻	1050.4	1/2 ⁻ ,3/2 ⁻
3770.4#@ 4	15	(4810.4)	1/2,3/2 ⁻	1039.9?	1/2,3/2
3774.9 3	75 13	(4788.4)	1/2,3/2 ⁻	1013.4	1/2 ⁻ ,3/2 ⁻
3779.1 3	20 8	(4810.4)	1/2,3/2 ⁻	1031.2	1/2 ⁻ ,3/2 ⁻
3796.9@ 3	<20	(4810.4)	1/2,3/2 ⁻	1013.4	1/2 ⁻ ,3/2 ⁻
3803.4#@ 6	39 12	(4788.4)	1/2,3/2 ⁻	984.9	1/2 ⁺ ,3/2 ⁺
3819.6#@ 6	39 12	(4788.4)	1/2,3/2 ⁻	968.7	1/2 ⁺ ,3/2 ⁺
3825.4#@ 6	<15	(4810.4)	1/2,3/2 ⁻	984.9	1/2 ⁺ ,3/2 ⁺
3830.7#@ 13	21 9	(4788.4)	1/2,3/2 ⁻	957.6	(5/2) ⁺
3840.9 4	68 10	(4788.4)	1/2,3/2 ⁻	947.4	1/2,3/2
3841.6#@ 6	<15	(4810.4)	1/2,3/2 ⁻	968.7	1/2 ⁺ ,3/2 ⁺
3852.7#@ 13	12 5	(4810.4)	1/2,3/2 ⁻	957.6	(5/2) ⁺
3862.9 4	33 10	(4810.4)	1/2,3/2 ⁻	947.4	1/2,3/2
3863.6 4	137 14	(4788.4)	1/2,3/2 ⁻	924.7	1/2 ⁻ ,3/2 ⁻
3870.0 12	81 12	(4788.4)	1/2,3/2 ⁻	918.3	1/2 ⁻ ,3/2 ⁻
3883.7 5	44 13	(4788.4)	1/2,3/2 ⁻	904.6	1/2 ⁺ ,3/2 ⁺
3885.6 4	58 12	(4810.4)	1/2,3/2 ⁻	924.7	1/2 ⁻ ,3/2 ⁻
3892.0 12	17 9	(4810.4)	1/2,3/2 ⁻	918.3	1/2 ⁻ ,3/2 ⁻
3896.7 5	43 13	(4788.4)	1/2,3/2 ⁻	891.6	1/2 ⁺ ,3/2 ⁺
3903.2#@ 10	17 7	(4788.4)	1/2,3/2 ⁻	885.1	5/2 ⁺
3905.7 5	30 9	(4810.4)	1/2,3/2 ⁻	904.6	1/2 ⁺ ,3/2 ⁺
3915.2#@ 10	28 11	(4788.4)	1/2,3/2 ⁻	873.1	(5/2) ⁺
3918.7 5	31 9	(4810.4)	1/2,3/2 ⁻	891.6	1/2 ⁺ ,3/2 ⁺
3925.2#@ 10	<15	(4810.4)	1/2,3/2 ⁻	885.1	5/2 ⁺
3926.8 5	42 13	(4788.4)	1/2,3/2 ⁻	861.6	1/2 ⁺ ,3/2 ⁺
3936.4#@ 6	28 9	(4788.4)	1/2,3/2 ⁻	851.9?	(5/2) ⁺
3937.2#@ 10	<15	(4810.4)	1/2,3/2 ⁻	873.1	(5/2) ⁺
3947.7 2	109 8	(4788.4)	1/2,3/2 ⁻	840.9	1/2 ⁻ ,3/2 ⁻
3948.8 5	22 7	(4810.4)	1/2,3/2 ⁻	861.6	1/2 ⁺ ,3/2 ⁺
3958.4#@ 6	14 6	(4810.4)	1/2,3/2 ⁻	851.9?	(5/2) ⁺
3969.7 2	36 11	(4810.4)	1/2,3/2 ⁻	840.9	1/2 ⁻ ,3/2 ⁻
3973.7 3	56 11	(4788.4)	1/2,3/2 ⁻	814.6	1/2 ⁺ ,3/2 ⁺
3995.7 3	29 9	(4810.4)	1/2,3/2 ⁻	814.6	1/2 ⁺ ,3/2 ⁺
4006.4#@ 7	39 12	(4788.4)	1/2,3/2 ⁻	781.9	1/2 ⁺ ,3/2 ⁺
4020.5 5	38 12	(4788.4)	1/2,3/2 ⁻	767.8	1/2 ⁺ ,3/2 ⁺
4028.4#@ 7	21 7	(4810.4)	1/2,3/2 ⁻	781.9	1/2 ⁺ ,3/2 ⁺
4042.5 5	31 9	(4810.4)	1/2,3/2 ⁻	767.8	1/2 ⁺ ,3/2 ⁺
4046.7 3	103 16	(4788.4)	1/2,3/2 ⁻	741.5	1/2 ⁻ ,3/2 ⁻
4066.3 4	50 10	(4788.4)	1/2,3/2 ⁻	722.0	1/2 ⁺ ,3/2 ⁺

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$^{232}\text{Th}(n,\gamma) E=2,24 \text{ keV}$ **1979Je01** (continued) $\gamma(^{233}\text{Th})$ (continued)

E_γ †	I_γ ‡	$E_i(\text{level})$	J_i^π	E_f	J_f^π
4068.7 3	27 5	(4810.4)	1/2,3/2 ⁻	741.5	1/2 ⁻ ,3/2 ⁻
4074.9 3	64 10	(4788.4)	1/2,3/2 ⁻	713.4	1/2 ⁺ ,3/2 ⁺
4088.3 4	33 5	(4810.4)	1/2,3/2 ⁻	722.0	1/2 ⁺ ,3/2 ⁺
4096.9 3	53 8	(4810.4)	1/2,3/2 ⁻	713.4	1/2 ⁺ ,3/2 ⁺
4106.5 2	164 12	(4788.4)	1/2,3/2 ⁻	681.8	1/2 ⁻ ,3/2 ⁻
4128.5 2	59 9	(4810.4)	1/2,3/2 ⁻	681.8	1/2 ⁻ ,3/2 ⁻
4159.4 @ 7	<15	(4788.4)	1/2,3/2 ⁻	628.9	5/2 ⁺
4176.2 4	44 13	(4788.4)	1/2,3/2 ⁻	612.1	1/2 ⁺ ,3/2 ⁺
4181.4 7	22 7	(4810.4)	1/2,3/2 ⁻	628.9	5/2 ⁺
4198.2 4	37 7	(4810.4)	1/2,3/2 ⁻	612.1	1/2 ⁺ ,3/2 ⁺
4202.3 2	227 16	(4788.4)	1/2,3/2 ⁻	586.0	1/2 ⁻ ,3/2 ⁻
4215.8 4	127 13	(4788.4)	1/2,3/2 ⁻	572.6	1/2 ⁻ ,3/2 ⁻
4224.3 2	33 10	(4810.4)	1/2,3/2 ⁻	586.0	1/2 ⁻ ,3/2 ⁻
4227.2 5	50 10	(4810.4)	1/2,3/2 ⁻	583.1	1/2,3/2
4237.8 4	42 6	(4810.4)	1/2,3/2 ⁻	572.6	1/2 ⁻ ,3/2 ⁻
4248.7 4	114 17	(4788.4)	1/2,3/2 ⁻	539.6	1/2 ⁻ ,3/2 ⁻
4270.7 4	34 7	(4810.4)	1/2,3/2 ⁻	539.6	1/2 ⁻ ,3/2 ⁻
4416.1 @ 4	<30	(4788.4)	1/2,3/2 ⁻	372.2	5/2 ⁺
4438.1 4	34 7	(4810.4)	1/2,3/2 ⁻	372.2	5/2 ⁺
4452.2 3	55 9	(4788.4)	1/2,3/2 ⁻	336.0	1/2 ⁺ ,3/2 ⁺
4474.2 3	48 7	(4810.4)	1/2,3/2 ⁻	336.0	1/2 ⁺ ,3/2 ⁺
4527.3 @ 4	<20	(4788.4)	1/2,3/2 ⁻	261.0	5/2 ⁺
4549.3 4	30 6	(4810.4)	1/2,3/2 ⁻	261.0	5/2 ⁺
4734.5 8	25 10	(4788.4)	1/2,3/2 ⁻	53.9	5/2 ⁺
4756.5 8	49 5	(4810.4)	1/2,3/2 ⁻	53.9	5/2 ⁺
4771.4 3	83 13	(4788.4)	1/2,3/2 ⁻	16.9	1/2 ⁺ ,3/2 ⁺
4782.3 @ 3	<20	(4788.4)	1/2,3/2 ⁻	6.0	5/2 ⁺
4788.3 4	86 6	(4788.4)	1/2,3/2 ⁻	0.0	1/2 ⁺ ,3/2 ⁺
4793.4 3	100 10	(4810.4)	1/2,3/2 ⁻	16.9	1/2 ⁺ ,3/2 ⁺
4804.3 3	56 8	(4810.4)	1/2,3/2 ⁻	6.0	5/2 ⁺
4810.3 4	110 11	(4810.4)	1/2,3/2 ⁻	0.0	1/2 ⁺ ,3/2 ⁺

† E_γ data from 2- and 24-keV average resonance capture are deduced evaluators from level energies given by **1979Je01**.

‡ Relative photon intensity measured by **1979Je01** in 2- and 24-keV neutron capture.





Tentative assignment, the line could be a full-energy peak or a double-escape peak.

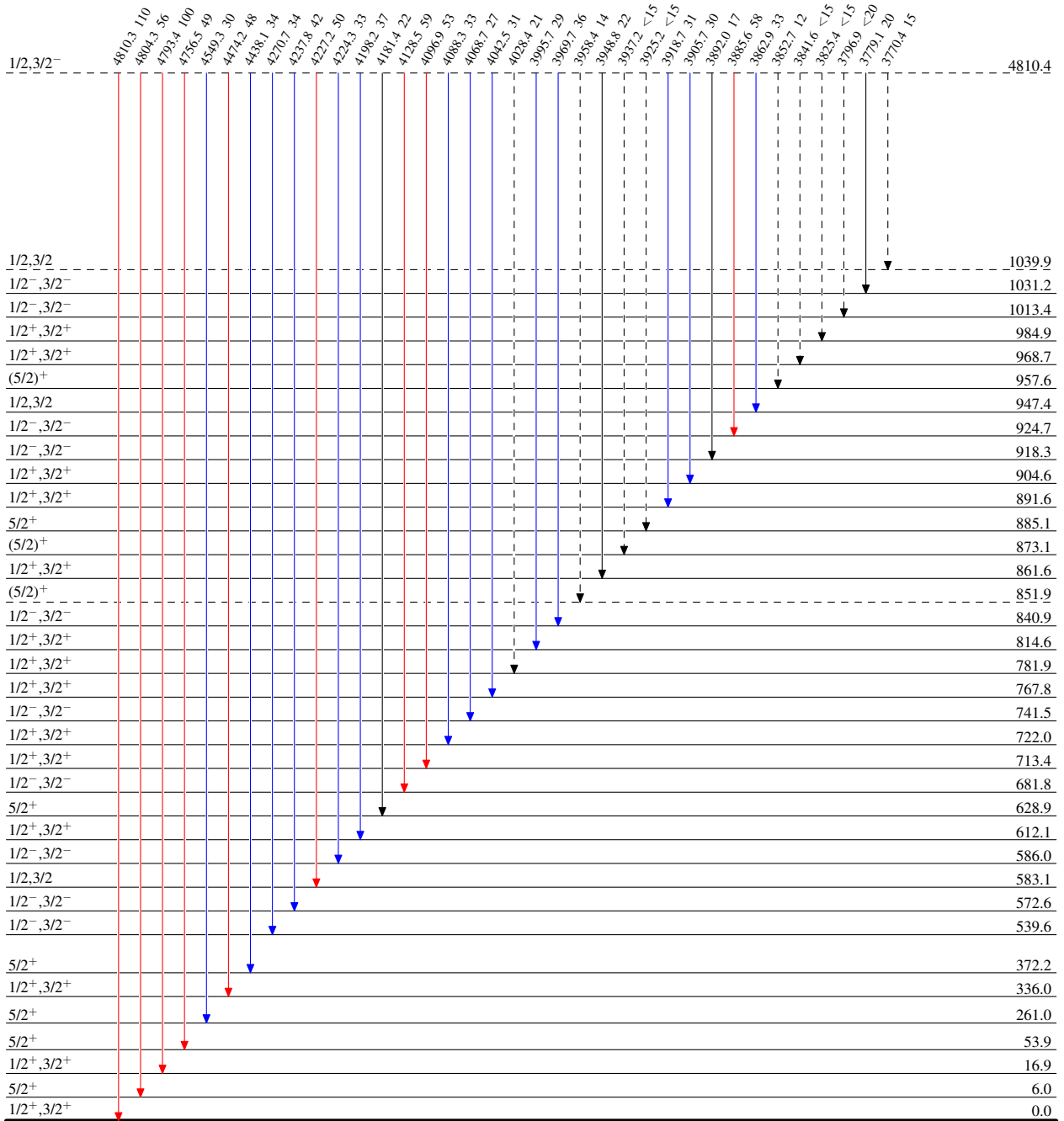
@ Placement of transition in the level scheme is uncertain.

$^{232}\text{Th}(n,\gamma) E=2,24 \text{ keV}$ 1979Je01

Legend

Level Scheme
Intensities: Relative I_γ

-  $I_\gamma < 2\% \times I_\gamma^{max}$
-  $I_\gamma < 10\% \times I_\gamma^{max}$
-  $I_\gamma > 10\% \times I_\gamma^{max}$
-  γ Decay (Uncertain)



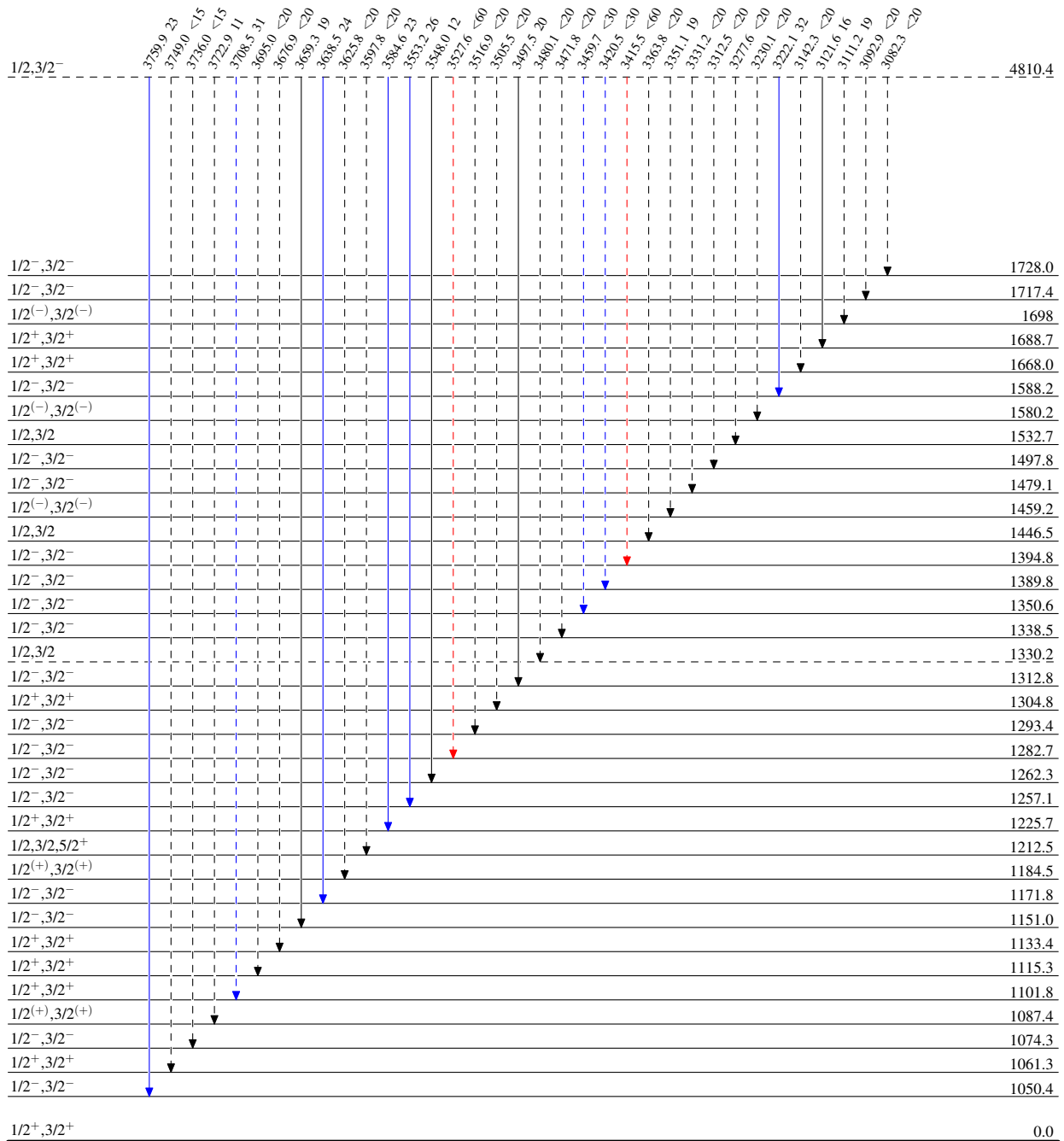
$^{232}\text{Th}(n,\gamma) E=2,24 \text{ keV}$ 1979Je01

Legend

Level Scheme (continued)

Intensities: Relative I_γ

- $I_\gamma < 2\% \times I_\gamma^{\text{max}}$
- $I_\gamma < 10\% \times I_\gamma^{\text{max}}$
- $I_\gamma > 10\% \times I_\gamma^{\text{max}}$
- - - - - γ Decay (Uncertain)



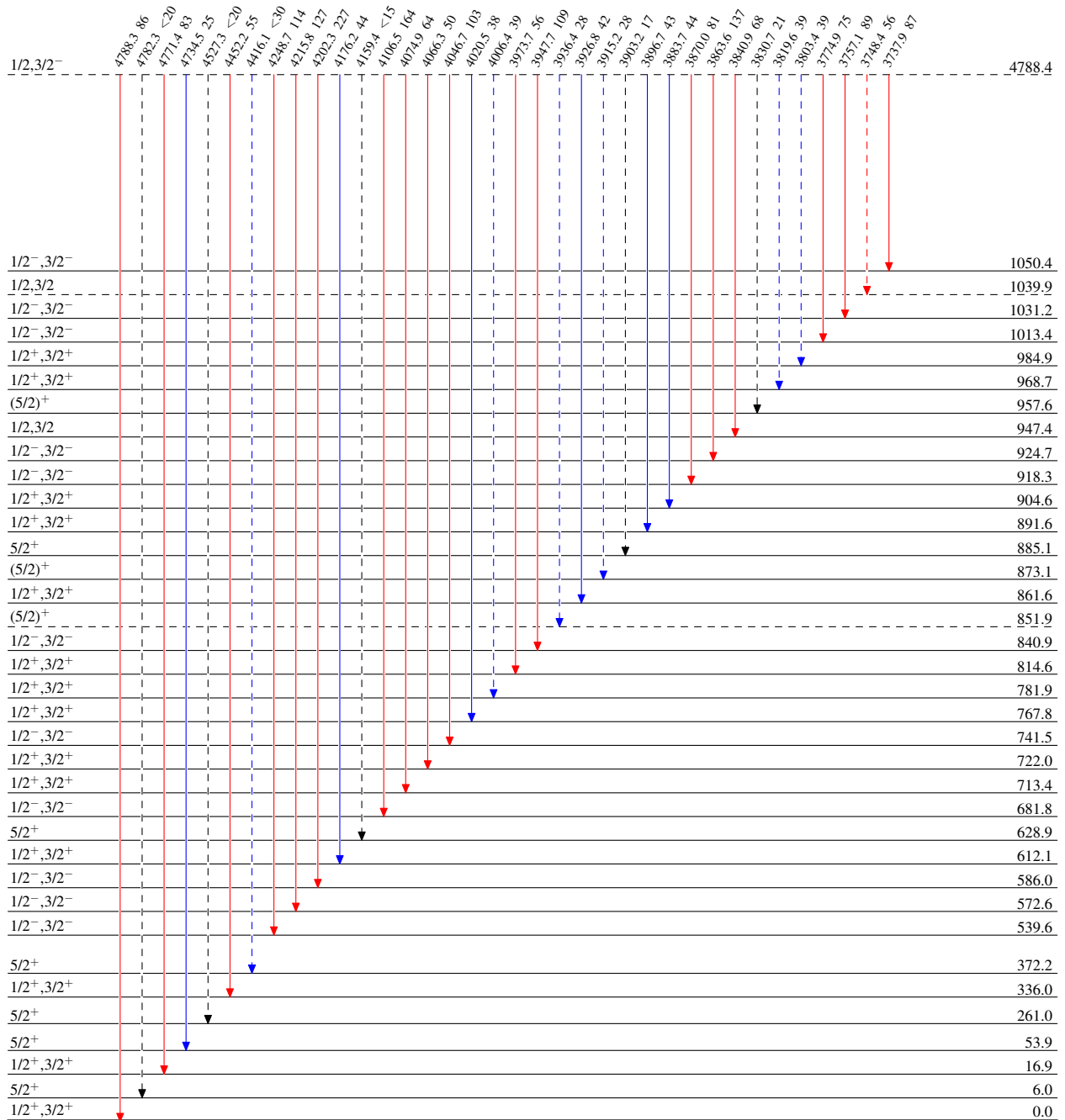
$^{232}\text{Th}(n,\gamma) E=2,24 \text{ keV}$ 1979Je01

Legend

Level Scheme (continued)

Intensities: Relative I_γ

- $I_\gamma < 2\% \times I_\gamma^{\max}$
- $I_\gamma < 10\% \times I_\gamma^{\max}$
- $I_\gamma > 10\% \times I_\gamma^{\max}$
- - - - - γ Decay (Uncertain)



$^{232}\text{Th}(n,\gamma) E=2,24 \text{ keV} \quad 1979\text{Je01}$

Legend

Level Scheme (continued)

Intensities: Relative I_γ

- ▶ $I_\gamma < 2\% \times I_\gamma^{max}$
- ▶ $I_\gamma < 10\% \times I_\gamma^{max}$
- ▶ $I_\gamma > 10\% \times I_\gamma^{max}$
- - -▶ γ Decay (Uncertain)

