

$^{193}\text{Ir}(n,\gamma)$ E=2,24 keV 1998Ba85

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen and Balraj Singh		NDS 177, 1 (2021)	3-Sep-2021

$J^\pi(^{193}\text{Ir g.s.})=3/2^+$. Average-resonance capture (ARC) data.

1998Ba85: E=2 and 24 keV neutrons were produced from the VVR-M type reactor near Kiev. Target was 23.2 g 97.6% enriched metallic ^{193}Ir . γ rays were detected with a 27 cm³ Ge(Li) detector (FWHM=8 keV for $E_\gamma=7$ MeV). Measured primary E_γ , I_γ .

Deduced levels, J, π .

Others:

1997Ja09: E \approx 30 keV. Measured E_γ , I_γ . Deduced σ .

[Additional information 1](#).

 ^{194}Ir Levels

E(level) [†]	J^π [‡]	Comments
0	1,2 ⁻	
43.8 5	0 ⁻	
83.3 7	1,2 ⁻	
112.1 3	1,2 ⁻	
139.3 4	1,2 ⁻	
147.8 3	(0,3) ⁻	
160.9 3	1,2 ⁻	
184.2 5	3 ⁻	
195.4 2	1,2 ⁻	
245.3 3	(0,3) ⁻	
254.5 5	1,2 ⁻	
278.0 2	1,2 ⁻	
309.0 6	1,2 ⁻	
314.5 6	1,2 ⁻	
337.3 3	1,2 ⁻	
347.0 5	3 ⁻	
376.3 4	3 ⁻	
390.2 3	3 ⁻	
421.0 3	(1,2,3) ⁻	
436.1 9	1,2 ⁻	
488.0 3		
500.9 4		
546.1 4		
579.3 5		
(6068.8 4)	(1 ⁺ ,2 ⁺)	E(level): S(n)+E(n), S(n)=6066.79 11 (2021Wa16), E(n)=2 keV. J^π : probable s-wave capture in $^{193}\text{Ir g.s.}$, $J^\pi=3/2^+$.
(6090.8 4)	(0 ⁻ ,1,2,3 ⁻)	E(level): S(n)+E(n), S(n)=6066.79 11 (2021Wa16), E(n)=24 keV. J^π : p-wave and s-wave capture in $^{193}\text{Ir g.s.}$, $J^\pi=3/2^+$.

[†] Deduced by [1998Ba85](#) from $E_\gamma(\text{primary})$ -S(n) for levels up to 579, where S(n)=6066.9 2 from this work and $E_\gamma(\text{primary})$ from measurements both with 2 keV and 24 keV listed in Table 4 of [1998Ba85](#).

[‡] As proposed by [1998Ba85](#), based on average resonance capture (ARC) data and reduced γ -ray intensities (I_γ/E_γ^5). See assignments with detailed arguments also in [2008Ba25](#) of the same authors.

$^{193}\text{Ir}(n,\gamma)$ E=2,24 keV **1998Ba85** (continued)

						$\gamma(^{194}\text{Ir})$					
E_γ^\dagger	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	E_γ^\dagger	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π
5489.6 4	52 3	(6068.8)	(1 ⁺ ,2 ⁺)	579.3		5812.9 1	74 9	(6090.8)	(0 ⁻ ,1,2,3 ⁻)	278.0	1,2 ⁻
5522.8 3	74 5	(6068.8)	(1 ⁺ ,2 ⁺)	546.1		5814.4 2	46 2	(6068.8)	(1 ⁺ ,2 ⁺)	254.5	1,2 ⁻
5568.0 3	64 2	(6068.8)	(1 ⁺ ,2 ⁺)	500.9		5823.6 2	34 2	(6068.8)	(1 ⁺ ,2 ⁺)	245.3	(0,3) ⁻
5580.9 2	58 2	(6068.8)	(1 ⁺ ,2 ⁺)	488.0		5836.4 2	36 7	(6090.8)	(0 ⁻ ,1,2,3 ⁻)	254.5	1,2 ⁻
5590.0 3	115 12	(6090.8)	(0 ⁻ ,1,2,3 ⁻)	500.9		5845.6 2	29 7	(6090.8)	(0 ⁻ ,1,2,3 ⁻)	245.3	(0,3) ⁻
5602.9 2	47 12	(6090.8)	(0 ⁻ ,1,2,3 ⁻)	488.0		5873.5 1	56 3	(6068.8)	(1 ⁺ ,2 ⁺)	195.4	1,2 ⁻
5632.8 8	36 2	(6068.8)	(1 ⁺ ,2 ⁺)	436.1	1,2 ⁻	5884.7 4	21 2	(6068.8)	(1 ⁺ ,2 ⁺)	184.2	3 ⁻
5647.9 2	62 6	(6068.8)	(1 ⁺ ,2 ⁺)	421.0	(1,2,3) ⁻	5895.5 1	67 10	(6090.8)	(0 ⁻ ,1,2,3 ⁻)	195.4	1,2 ⁻
5654.8 8	60 8	(6090.8)	(0 ⁻ ,1,2,3 ⁻)	436.1	1,2 ⁻	5906.7 4	44 10	(6090.8)	(0 ⁻ ,1,2,3 ⁻)	184.2	3 ⁻
5669.9 2	123 9	(6090.8)	(0 ⁻ ,1,2,3 ⁻)	421.0	(1,2,3) ⁻	5908.0 2	46 2	(6068.8)	(1 ⁺ ,2 ⁺)	160.9	1,2 ⁻
5678.7 2	25 2	(6068.8)	(1 ⁺ ,2 ⁺)	390.2	3 ⁻	5921.1 2	43 3	(6068.8)	(1 ⁺ ,2 ⁺)	147.8	(0,3) ⁻
5692.6 3	29 2	(6068.8)	(1 ⁺ ,2 ⁺)	376.3	3 ⁻	5929.6 3	63 3	(6068.8)	(1 ⁺ ,2 ⁺)	139.3	1,2 ⁻
5700.7 2	36 9	(6090.8)	(0 ⁻ ,1,2,3 ⁻)	390.2	3 ⁻	5930.0 2	25 10	(6090.8)	(0 ⁻ ,1,2,3 ⁻)	160.9	1,2 ⁻
5714.6 3	57 9	(6090.8)	(0 ⁻ ,1,2,3 ⁻)	376.3	3 ⁻	5943.1 2	17 10	(6090.8)	(0 ⁻ ,1,2,3 ⁻)	147.8	(0,3) ⁻
5721.9 4	27 2	(6068.8)	(1 ⁺ ,2 ⁺)	347.0	3 ⁻	5951.6 3	37 12	(6090.8)	(0 ⁻ ,1,2,3 ⁻)	139.3	1,2 ⁻
5731.6 2	100 3	(6068.8)	(1 ⁺ ,2 ⁺)	337.3	1,2 ⁻	5956.8 2	57 2	(6068.8)	(1 ⁺ ,2 ⁺)	112.1	1,2 ⁻
5743.9 4	64 9	(6090.8)	(0 ⁻ ,1,2,3 ⁻)	347.0	3 ⁻	5978.8 2	52 11	(6090.8)	(0 ⁻ ,1,2,3 ⁻)	112.1	1,2 ⁻
5753.6 2	100 9	(6090.8)	(0 ⁻ ,1,2,3 ⁻)	337.3	1,2 ⁻	5985.6 6	99 2	(6068.8)	(1 ⁺ ,2 ⁺)	83.3	1,2 ⁻
5754.4 5	38 7	(6068.8)	(1 ⁺ ,2 ⁺)	314.5	1,2 ⁻	6007.6 6	118 20	(6090.8)	(0 ⁻ ,1,2,3 ⁻)	83.3	1,2 ⁻
5759.9 5	57 6	(6068.8)	(1 ⁺ ,2 ⁺)	309.0	1,2 ⁻	6025.1 4	11 2	(6068.8)	(1 ⁺ ,2 ⁺)	43.8	0 ⁻
5776.4 5	42 10	(6090.8)	(0 ⁻ ,1,2,3 ⁻)	314.5	1,2 ⁻	6047.1 4	23 7	(6090.8)	(0 ⁻ ,1,2,3 ⁻)	43.8	0 ⁻
5781.9 5	51 10	(6090.8)	(0 ⁻ ,1,2,3 ⁻)	309.0	1,2 ⁻	6069.0 2	54 2	(6068.8)	(1 ⁺ ,2 ⁺)	0	1,2 ⁻
5790.9 1	45 2	(6068.8)	(1 ⁺ ,2 ⁺)	278.0	1,2 ⁻	6091.0 2	55 7	(6090.8)	(0 ⁻ ,1,2,3 ⁻)	0	1,2 ⁻

† Neutron energy is added to the values listed in table 4 of [1998Ba85](#).

