^{193}Ir(p,t) 1978St09,1978Lo07

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia	NDS 195,368 (2024)	1-Dec-2023

$J^{\pi}(^{193}Ir)=3/2^+$.

1978St09: Target: 99.7% enriched ^{193}Ir. Magnetic spectrometer. E=34.7 MeV, FWHM=13 keV, θ=15° to 60° in steps of 5°.

1978Lo07: Mass-separated ^{193}Ir target. Magnetic spectrometer. E=18 MeV, θ=10° to 75° in steps of 5°.

The (p,t) reaction tends to select those states in the residual nuclei which are closely related to the ground state of the target nucleus. Population to the 3/2[402] rotational band and to other even-parity bands mixed by Coriolis or vibration-particle interaction was observed.

^{191}Ir Levels

E(level)[†]	J^{π}[@]	L[a]	S[&]	Comments
0.0[b]	$3/2^+$	0	100	
83[c] *3*	$1/2^+$			E(level): 82 (1978St09) and 84 *3* (1978Lo07).
130[b] *3*	$5/2^+$			
171?[#e]	$11/2^-$			
179[c] *3*	$3/2^+$			E(level): 178 (1978St09) and 180 *3* (1978Lo07).
344[b] *3*	$7/2^+$			E(level): Same value in 1978St09.
355?[c] *3*	$5/2^+$			E(level): Same value in 1978St09.
504[b] *3*	$9/2^+$			E(level): 503 (1978St09) and 504 *3* (1978Lo07).
539[d] *3*	$3/2^+$	0		E(level): 538 (1978St09) and 539 *3* (1978Lo07).
589[#g]	$5/2^+$			
625?[#d]	$1/2^+$			
687[f] *3*	$7/2^+$			E(level): 686 (1978St09) and 688 *3* (1978Lo07).
764 *3*	$3/2^+$	0	1.3	E(level): 763 (1978St09) and 764 *3* (1978Lo07).
816[#]				
833[#b]				
946[#]				
1005[#]				
1069 *3*	$3/2^+$	0	1.3	E(level): 1068 (1978St09) and 1069 *3* (1978Lo07). L: From 1978St09. Other: (0) in 1978Lo07.
1130[#]				
1141[#]				
1150[‡] *3*				
1212[#]				
1244[#]				
1461[‡] *3*	$3/2^+$	0	5.9	
1596[‡] *3*	$3/2^+$	0	4.5	

[†] From 1978Lo07, except otherwise noted.
[‡] Observed by 1978Lo07 only.
[#] From 1978St09 only.
[@] As given in Fig. 10 (1978St09), proposed based on L values or angular distribution measurements.
[&] Relative Q value-corrected strength (1978Lo07).
[a] From 1978Lo07, based on comparison of measured angular distribution with DWBA calculations.
[b] Band(A): 3/2[402] g.s. rotational band.
[c] Band(B): 1/2[400]+(3/2[402],2^+) rotational band.

Continued on next page (footnotes at end of table)

^{193}Ir(p,t) 1978St09,1978Lo07 (continued)

^{191}Ir Levels (continued)

[d] Band(C): 1/2[411] rotational band.
[e] Band(D): 11/2[505] rotational band.
[f] Band(E): 7/2[404]+(3/2[402],2^+) rotational band.
[g] Band(F): 5/2[402]+(1/2[400],2^+) rotational band.

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Band(A): 3/2[402] g.s. rotational band

833

9/2$^+$ 504

7/2$^+$ 344

5/2$^+$ 130

3/2$^+$ 0.0

Band(B): 1/2[400]+(3/2[402],2$^+$) rotational band

5/2$^+$ _ _ _ _ _ _ 355

3/2$^+$ 179

1/2$^+$ 83

Band(C): 1/2[411] rotational band

1/2$^+$ _ _ _ _ _ _ 625

3/2$^+$ 539

Band(D): 11/2[505] rotational band

11/2$^-$ _ _ _ _ _ _ 171

Band(E): 7/2[404]+(3/2[402],2$^+$) rotational band

7/2$^+$ 687

Band(F): 5/2[402]+(1/2[400],2$^+$) rotational band

5/2$^+$ 589

$^{191}_{77}Ir_{114}$