^{191}Ir(p,t) 1978Lo07,1978St09

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	T. D. Johnson, Balraj Singh	NDS 142, 1 (2017)	15-Apr-2017

$J^\pi(^{191}\text{Ir g.s.})=3/2^+$.

1978Lo07: E=18 MeV. Measured triton spectra, $\sigma(\theta)$ from 10° to 75° in steps of 5° using Enge-split pole magnetic spectrograph and nuclear emulsions. Estimated FWHM≈10 keV, as in authors′ other (p,t) experiments for example in 1975St08 for ^{165}Er experiment. DWBA analysis of $\sigma(\theta)$ data. Enriched target. Deduced levels, L-transfer, J^π, Q value.

1978St09: E=34.7 MeV. Measured triton spectra, $\sigma(\theta)$ from 15° to 60° in steps of 5° using a Q3D magnetic spectrograph and a position-sensitive wire proportional counter, FWHM=13 keV. Absolute cross sections accurate to 25% while the relative values are within 4%. Enriched target. Deduced levels, L-transfers, J, π.

^{189}Ir Levels

E(level)[†]	L[‡]	dσ/dΩ (μb/sr)[#]	Comments
0[c]	0	469	E=0, σ=243.8 mb (1978St09). 3/2$^+$ bandhead of π3/2[402] band.
95[d] 3	(2)	4	E=93, σ=2.2 mb (1978St09). 1/2$^+$ bandhead of π1/2[400] band.
114[c] 3	(2)	25	E=112, σ=15.8 mb (1978St09). 5/2$^+$ member of π3/2[402] band.
178[d] 3		6	E=173, σ=1.4 mb (1978St09). L: σ(θ) for 173 level in 1978St09 is given under L=0 cases in their Fig. 3, but σ(θ) distribution for this level in 1978St09 as well as in 1978Lo07 differs significantly from those for other L=0 transitions. 3/2$^+$ member of π1/2[400] band.
301[c] 3	(2)	16	E=296, σ=16.6 mb (1978St09). 7/2$^+$ member of π3/2[402] band.
318[d] 3	(2)	3	E=312, σ=3.1 mb (1978St09). 5/2$^+$ member of π1/2[400] band.
371[@] 3	a		Tentatively interpreted as π5/2[402] state (1978St09). σ=0.2 mb (1978St09). Possible $\pi h_{11/2}$, $J^\pi=11/2^-$ state.
454[c] 3	a	3	E=453, σ=3.9 mb (1978St09). 9/2$^+$ member of π3/2[402] band.
644[@] 3	(2)		σ=0.3 mb (1978St09). Tentatively interpreted as π5/2[402] state (1978St09).
722[e] 3	0	7	E=719, σ=6.2 mb (1978St09). 3/2$^+$ member of π1/2[411] band.
753 3	(2)	11	E=748, σ=3.4 mb (1978St09). Interpreted as 7/2$^+$, γ-vibrational state based on the g.s. (1978Lo07).
794[@] 3	a		σ=0.3 mb (1978St09).
838[@] 3	a		σ=0.4 mb (1978St09).
914 3	0	8	E=916, σ=8.0 mb (1978St09).
964[@] 3	a		σ=1.2 mb (1978St09).
1052[@] 3	(0)		σ=0.3 mb (1978St09). L: from 1978St09, fit only at lower angles.
1175[b] 3	a	3	E=1184, σ=3.4 mb (1978St09) The 1184 keV value is used in the Adopted Levels supported by γ transitions.
1202[b] 3	0	7	E=1213, σ=5.4 mb (1978St09).
1248[b] 3	0	16	E=1261, σ=19.1 mb (1978St09).
1345[&] 3		4	
1506[&] 3	0	13	L: from 1978Lo07.

Continued on next page (footnotes at end of table)

^{191}Ir(p,t) 1978Lo07,1978St09 (continued)

^{189}Ir Levels (continued)

† From 1978Lo07, except where indicated. Values from 1978St09 are given in comments.
‡ L=0 values are from 1978St09 and 1978Lo07, unless otherwise stated. The L=2 and other assignments are from 1978St09. Evaluators treat L=2 assignments in 1978St09 as tentative since these are not supported by DWBA analysis or any other scattering model considerations.
# From 1978Lo07 at 20°. Authors give values at 40° also. Relative cross sections are known to 10% whereas absolute σ are within 20%. Summed cross sections in μb are provided by 1978St09 and listed here under comments.
@ Level observed only by 1978St09. Energy uncertainty is not given by the authors, assigned here as 3 keV by the evaluators.
& Level observed only by 1978Lo07.
a Not 0 or 2.
b Taken from 1978Lo07.
c Band(A): π3/2[402] band.
d Band(B): π1/2[400] band.
e Band(C): π1/2[411] band.

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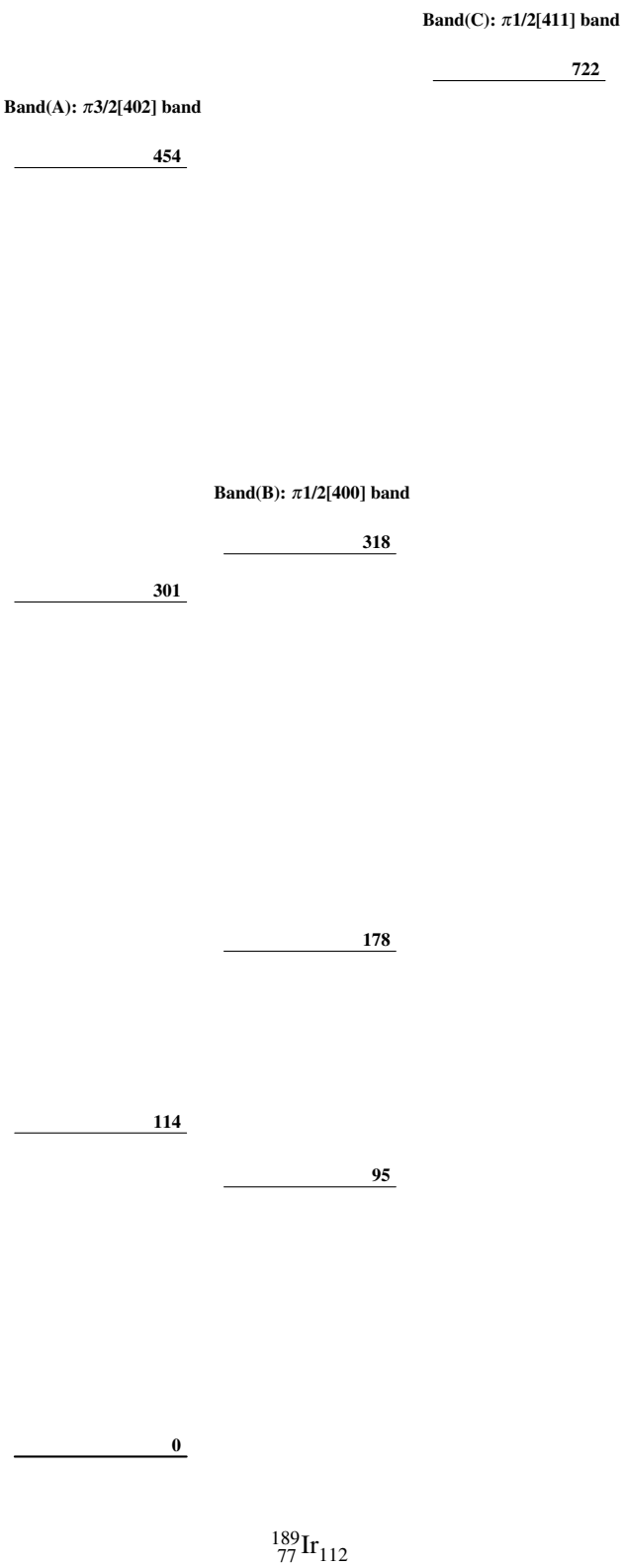

$^{189}_{77}Ir_{112}$