^{192}Os(^{3}He,d), (α,t) 1971Pr13

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 143, 1 (2017)	31-Mar-2017

E(^{3}He)=28 MeV; θ=30°, 55°.
E(α)=28 MeV; θ=45°, 60°.
Osmium metal targets enriched to 98.7% in ^{192}Os; measured E(level) (mag spect, FWHM=16-17 keV for (^{3}He,d), =12 keV for (α,t)), differential cross sections.

^{193}Ir Levels

E(level)[†]	Jπ[‡]	L[@]	$C_{jl}^2U^2$[#]	Comments
0.0[b]	3/2$^+$	2	0.67	$C_{jl}^2U^2$ in (α,t) for all transitions were normalized to give 0.67 for this transition.
77[d] *3*	1/2$^+$ & 11/2$^-$			Unresolved doublet, with division of intensity assumed to be the same as that for the analogous states in ^{191}Ir. L=0 and $C_{jl}^2U^2$=0.25 (0.24 in (α,t)) for 73.0 level; L=5 and $C_{jl}^2U^2$=0.77 (0.89 in (α,t)) for 80.2 level.
140[b]	5/2$^+$	2	0.04	$C_{jl}^2U^2$=0.04 in (α,t).
181[c]	3/2$^+$	2	0.05	$C_{jl}^2U^2$=0.05 in (α,t).
300	7/2$^-$	3	0.04	$C_{jl}^2U^2$=0.03 in (α,t).
364[c] *3*	7/2$^+$ & 5/2$^+$	4+2		Unresolved doublet. If the entire cross section is assumed to be of the assigned L, $C_{jl}^2U^2$=1.28 (0.50 in (α,t)) for L=4 and $C_{jl}^2U^2$=0.30 (0.26 in (α,t)) for L=2.
562[e] *3*	5/2$^+$	2	0.25	$C_{jl}^2U^2$=0.26 in (α,t).
622[f]	7/2$^+$	4	0.03	$C_{jl}^2U^2$=0.02 in (α,t).
852				
969 *3*		0,1		
1071		1,2		
1133[&g]	5/2$^-$	3		$C_{jl}^2U^2$=0.06 in (α,t).
1150[g] *3*	9/2$^-$	5	1.33	$C_{jl}^2U^2$=1.31 in (α,t).
1163[h] *3*	13/2$^+$	6	0.44	$C_{jl}^2U^2$=0.50 in (α,t).
1201 *3*		1		
1286		3		
1407				
1698 *3*		2,3		
1759[i] *3*	3/2$^-$	1	0.05	$C_{jl}^2U^2$=0.15 in (α,t).
1820[i] *3*	7/2$^-$	3	0.77	$C_{jl}^2U^2$=0.61 in (α,t).
1970[a] *3*				
1999[a] *3*				
2029[a]				

[†] Averages from (^{3}He,d) and (α,t), except where noted; uncertainties are 3 keV for strongly populated states (estimated by evaluator to be those with dσ/d$\Omega\geq$10).
[‡] From Nilsson-model interpretation of L values and spectroscopic factors; fingerprint evaluated taking into account Coriolis interaction (1971Pr13).
[#] From DWBA analysis, $C_{jl}^2U^2$=(dσ/dΩ)(exp)/2N (dσ/dΩ)(DWBA) where N=4.42 for (^{3}He,d); values for (α,t) are given under comments, normalized to (^{3}He,d) observed value for g.s., which required N=118, much greater than the expected value N=48.
[@] From DWBA analysis of angular distributions.
[&] Seen in (α,t) only.
[a] Seen in (^{3}He,d) only.
[b] Band(A): 3/2[402] band.
[c] Band(B): 1/2[400] band.

Continued on next page (footnotes at end of table)

^{192}Os(^{3}He,d), (α,t) 1971Pr13 (continued)

^{193}Ir Levels (continued)

[d] Band(C): 11/2[505] band.
[e] Band(D): 5/2[402] band.
[f] Band(E): 7/2[404] band.
[g] Band(F): 1/2[541] band.
[h] Band(G): 1/2[660] band.
[i] Band(H): 1/2[530] band.

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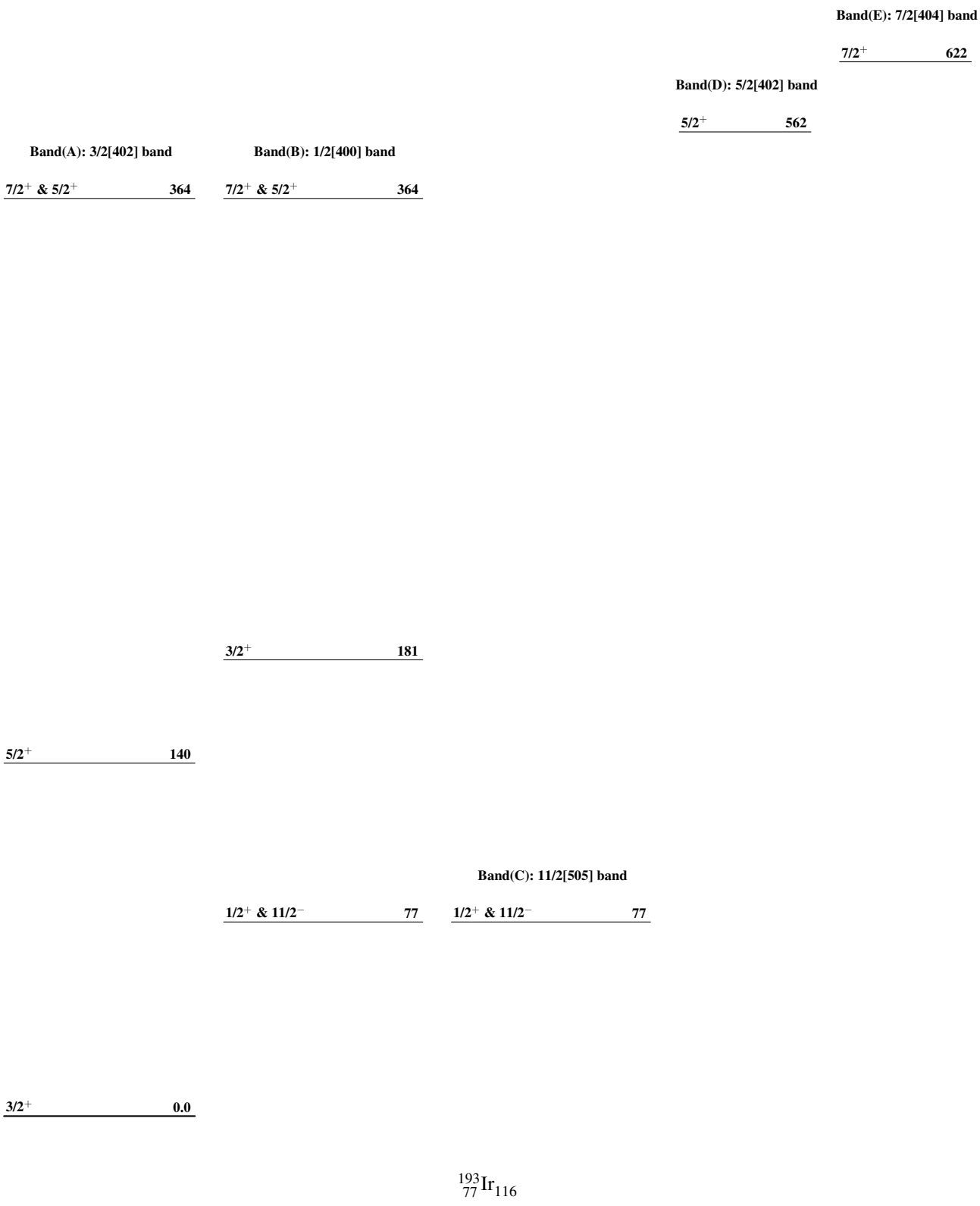

$^{193}_{77}Ir_{116}$

^{192}Os(^{3}He,d), (α,t) 1971Pr13 (continued)

Band(H): 1/2[530] band

7/2$^-$ 1820

3/2$^-$ 1759

Band(G): 1/2[660] band

13/2$^+$ 1163

Band(F): 1/2[541] band

9/2$^-$ 1150

5/2$^-$ 1133

$^{193}_{77}Ir_{116}$