^{192}Os(p,t) 1975Th04,1976Sh15,2006Me25

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh, [1] and Jun Chen[2]	NDS 169,1 (2020)	15-Oct-2020

1975Th04: E=18 MeV proton beam was produced from the J. H. Williams Laboratory MP-II tandem accelerator and/or the University of Rochester Nuclear Structure Research Laboratory. Target was 98.5% enriched ^{192}Os on a carbon backing. Reaction products were momentum-analyzed with an Enge split-pole magnetic spectrograph (FHWM≈10 keV) and detected with nuclear emulsions. Measured $\sigma(\theta)$ (θ=10° to 70°). Deduced levels, J, π, L transfers from DWBA analysis. Cross section uncertainty ≈10% relative and ≈20% absolute.

1976Sh15 (also 1975ShYU,1973Sh18): E=19.0 MeV proton beam was produced from the J. H. Williams Laboratory MP-II tandem accelerator. Target was 172 μg/cm^2 98.68% enriched self-supporting ^{192}Os on a 20 μg/ cm^2 carbon backing. Reaction products were momentum-analyzed with an Enge split-pole magnetic spectrograph (FWHM=10 keV) and detected with an array of 6 position sensitive detectors. Measured $\sigma(\theta)$ (θ=10° to 60°). Deduced levels, J, π, L transfers from DWBA analysis. Cross section uncertainty 10-15% absolute. The authors list summed cross sections for states up to 1732 keV.

2006Me25 (also 2006Me13,2005Me19): E=25 MeV proton beam was produced from the University of Munich MP tandem accelerator. Target was isotopically enriched ^{192}Os. Reaction products were momentum-analyzed with the Q3D magnetic spectrograph (FHWM=4-6 keV). $\sigma(\theta)$ at θ=5°, 17.5° and 30°. Deduced levels, J, π, L-transfers from DWBA analysis. Three new 0^+ states were discovered.

Others:

1985Mi06: E=51.9 MeV. Measured $\sigma(\theta)$ and transition strength for g.s.

1973Oo01: E=19 MeV. Measured Q value.

^{190}Os Levels

Cross sections (μb/sr) from 2006Me25

E(Level)	at 5°	at 17.5°	at 30°
0.0	1540 *20*	70 *2*	555 *6*
911.9 *3*	74 *2*	4.4 *3*	26.2 *9*
1382.5 *3*	7.2 *7*	3.1 *9*	4.5 *6*
1545.2 *4*	27 *1*	4.3 *3*	10.4 *4*
1733.0 *4*	115 *2*	12.0 *5*	42.1 *8*
1956.6 *4*	1.5 *2*	0.4 *1*	0.4 *1*
2483.5 *5*	23.6 *9*	6.3 *6*	11.2 *4*

E(level)[†]	L[@]	dσ/dΩ (μb/sr)[a]	Comments
0	0	823	dσ/dΩ (μb/sr): others: 1540 *10* (at 5°), 70 *2* (at 17.5°.
187 *4*	&	79	E(level): other: 187 *5* (1976Sh15).
547 *4*		8.2	
556 *4*	&	20	E(level): other: 556 *5* for a doublet (1976Sh15).
911.9[‡] *3*	0	23	E(level): others: 911 *4* (1975Th04), 913 *5* (1976Sh15).
954 *4*	&	5.7	E(level): other: 954 *5* (1976Sh15).
1055[#] *4*		1.6	
1114 *4*	&	1.8	E(level): other: 1115 *5* (1976Sh15).
1162 *4*	&	1.0	E(level): other: 1168 *5* (1976Sh15).
1382.5[‡] *3*	0	13	E(level): others: 1384 *4* (1975Th04), 1393 *5* (1976Sh15).
1434 *4*		2.7	E(level): other: 1450 *5* (1976Sh15).
1545.2[‡] *4*	0	8.8	E(level): others: 1543 *4* (1975Th04), 1551 *5* (1976Sh15).
1614[#] *4*		1.0	
1679 *4*		3.4	E(level): other: 1686 *5* (1976Sh15).
1706 *4*		3.3	E(level): other: 1712 *5* (1976Sh15).

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^{192}Os(p,t) 1975Th04,1976Sh15,2006Me25 (continued)

^{190}Os Levels (continued)

E(level)[†]	L[@]	dσ/dΩ (μb/sr)[a]	Comments
1733.0[‡] *4*	0	23	E(level): others: 1732 *4* (1975Th04), 1734 *5* (1976Sh15).
1869 *5*			
1916 *5*			
1946 *5*			
1956.6[‡] *4*	0		
1990 *5*			
2018 *10*			
2054 *10*			
2083 *10*			
2130 *10*			
2161 *10*			
2211 *10*			
2266 *10*			
2286 *10*			
2339 *10*			
2412 *10*			
2440 *10*			
2483.5[‡] *5*	0		E(level): other: 2493 *10* (1976Sh15).
2538 *10*			
2603 *10*			
2645 *10*			
2674 *10*			
2715 *10*			
2739 *10*			
2755 *10*			
2915 *10*			
2947 *10*			
3023 *10*			
3278 *10*			
3336 *10*			
3430 *10*			
3525 *10*			
3577 *10*			
3595 *10*			
3628 *10*			
3724 *10*			
3781 *10*			
3900 *10*			
3978 *10*			
4015 *10*			

[†] From 1975Th04 for levels up to 1732 and states above this are reported by 1976Sh15 only, unless otherwise noted. Uncertainty of energies from 1975Th04 are based on uncertainty of 4 keV assigned to the reaction Q value (1975Th04). Between 1162 and 1706 energies given by 1976Sh15 are about 8 keV higher than those from 1975Th04.

[‡] From 2006Me25.

[#] Not reported by 1976Sh15.

[@] From $\sigma(\theta)$ data analyzed by DWBA (2006Me25,1975Th04,1976Sh15).

[&] Unique L-value cannot be deduced from $\sigma(\theta)$ data (1976Sh15 and/or 1975Th04), but data are generally consistent with J^{π} values as given in the Adopted Levels.

[a] From 1975Th04, at 25°. See also table above for cross section data at 5°, 17.5° and 30° from 2006Me25.