^{186}W(d,d′), (p,p′), (α,α′) 1971Gu17

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. C. Batchelder and A. M. Hurst, M. S. Basunia	NDS 183, 1 (2022)	1-Mar-2022

Others: 1971Kr10, 1974Br31, 1975Le22 (see also 1974Le16).

No change compared to previous evaluation (2003Ba44).

See also Coulomb excitation data set.
^{186}W(d,d′): 1971Gu17.
E(d)=12.1 MeV; d spectra measured at 90° and 125°, magnetic spectrograph + emulsions; deduced J^{π} from cross section ratios; discussed possible band structure.
^{186}W(p,p′): 1971Kr10.
E(p)=16 MeV, enriched target, cooled Si(Li) detectors, θ(lab)=50°−165°; measured σ(θ) for g.s. and 122 level; deduced β_2=0.215 from DWBA analysis of σ(θ).
^{186}W(α,α′): 1974Br31 (Eα=11-20 MeV); 1975Le22 and 1974Le16 (Eα=13.25-19 MeV).
Measured σ(Eα) at fixed angle in energy region of Coulomb-nuclear interference for 0, 122, 396 levels; deduced β_2 and β_4 for nuclear potential.

^{186}W Levels

Band structure is from 1971Gu17; it differs in some respects from adopted band structure.

E(level)[†]	J^{π}[‡]	Comments
0.0[&]		
122.5[&]		β_2=0.16 *+3−6* (1974Br31) β_2: potential deformation from (α,α′). Other β_2: 0.182 (1975Le22 and 1974Le16). E(level): assumed (from earlier literature) by 1971Gu17 to adjust their E(d′) scale.
396[&] *2*		β_4=−0.091 *+8−25* (1974Br31) β_4: potential deformation from (α,α′). Other β_4: −0.077 (1975Le22 and 1974Le16).
737[a] *2*		
809[&] *2*		
883[b] *2*	(0^+)	
1006[b] *2*	4^+[#]	
1029[a] *2*	4^+	
1044[c] *2*	3^-	
1150[d] *2*	(0^+)	
1284[d] *3*		
1298 *3*		
1320 *3*		
1396[@] *3*		
1519 *4*		
1607 *4*		
1629 *5*		
1640 *5*		
1678 *5*		
1721 *5*		
1992 *7*		
2003 *7*		
2054 *7*		
2270 *8*		
2337 *9*		

Continued on next page (footnotes at end of table)

^{186}W(d,d′), (p,p′), (α,α′) 1971Gu17 (continued)

^{186}W Levels (continued)

E(level)[†]
2378[@] *9*
2588 *10*

[†] Adopted by 1971Gu17 from 90° and 125° measurements relative to the 122 level. ΔE=2 keV for E≤1200; ΔE increases by≤6 keV/MeV for E>1200 (1971Gu17).
[‡] From 1971Gu17, based on ratio of cross sections at θ=90° and θ=125°.
[#] Differs from adopted value.
[@] Composite peak (1971Gu17).
[&] Band(A): K=0 g.s. band.
[a] Band(B): K=2 γ band. Note that identity of J=4 member differs in Adopted Levels.
[b] Band(C): Possible K=0 β band. Note that suggested assignment of J=2 member has not been adopted.
[c] Band(D): Possible $K^{\pi}=2^{-}$ band.
[d] Band(E): K=0 band.

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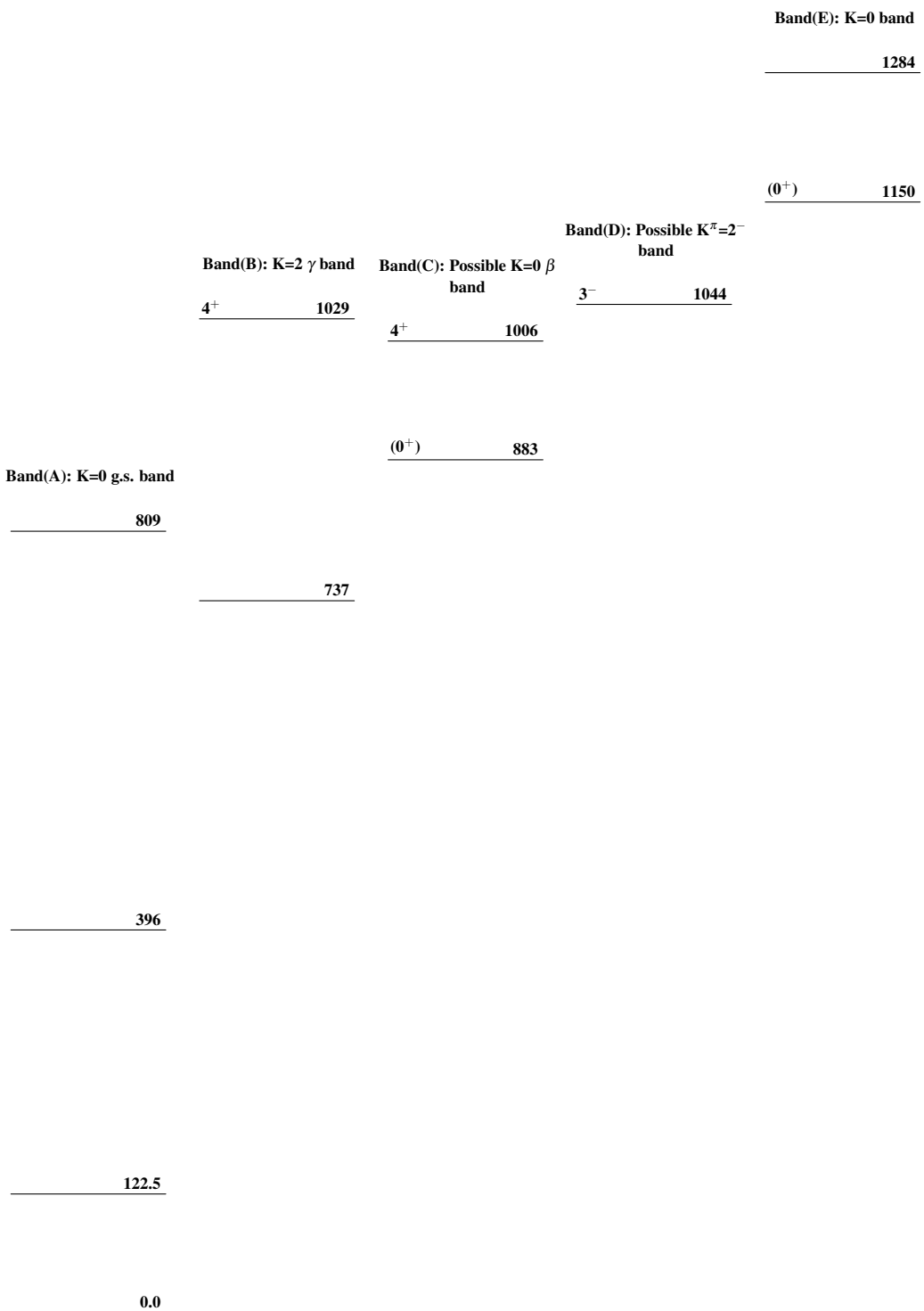

$^{186}_{74}W_{112}$