

$^{200}\text{Hg}(\text{d},\text{d}')$ 2015RaZX,2014RaZX

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 192,1 (2023)	1-Aug-2023

2015RaZX,2014RaZX: E(d)=25 MeV beam provided by the tandem accelerator at the Munich MLL facility. Target=50 $\mu\text{g}/\text{cm}^2$ thick ^{202}HgS on 10 $\mu\text{g}/\text{cm}^2$ thick carbon backing; 97.58% enriched ^{202}Hg target. Measured deuteron spectra, $\sigma(\theta)$ using Q3D magnetic spectrograph and high-resolution focal-plane detector. FWHM=3-5 keV. Deduced levels, J, π .

 ^{200}Hg Levels

The reported uncertainties in the measured cross sections include statistical and Q3D aperture solid-angle ones, as well as additional 3% systematic uncertainty due to target thickness.

E(level) [†]	J ^{π} [†]	L [†]	d σ /d Ω (max), mb/sr	Comments
0.0	0 ⁺			
367.94 5	2 ⁺	2	5.0 3	
947.3 2	4 ⁺	4	0.16 1	
1029.0 9	0 ⁺	2	0.011 2	J ^{π} : L(d,d')=2 from J ^{π} =2 ⁺ .
1254.1 4	2 ⁺	2	0.072 6	
1516.1 9	0 ⁺	2	0.011 3	J ^{π} : L(d,d')=2 from J ^{π} =2 ⁺ .
1573.6 6	2 ⁺	2	0.023 2	
1658.9 3	4 ⁺	4	0.19 1	
1706.8 7	6 ⁺	2	0.020 2	
1731 1	2 ⁺	2	0.0040 6	
1851.8 3	5 ⁻	5	0.065 6	
1882.2 7	2 ⁺	2	0.006 1	
1962 1	7 ⁻	2	0.004 2	J ^{π} : L(d,d')=2 from J ^{π} =5 ⁻ .
1979.9 6	2 ⁺	2	0.019 2	
2075 1	2 ⁺	2	0.009 2	
2100 1	2 ⁺	2	0.009 1	
2151.3 3	3 ⁻	3	0.054 5	B(E3)(0 ⁺ to 3 ⁻)=0.029 e ² b ³ 1.
2275 2	2 ⁺	2	0.008 1	
2296 1	1 ⁺	2	0.010 2	
2319 1	2 ⁺	2	0.006 1	
2376.9 6	7 ⁻	2	0.016 2	
2415.2 7	2 ⁺	2	0.024 2	
2480.7 7	2 ⁺	2	0.015 2	
2565.3 6	2 ⁺	2	0.047 4	
2612.1 5	3 ⁻	3	0.57 5	B(E3)(0 ⁺ to 3 ⁻)=0.34 e ² b ³ 1.
2663.9 1	3 ⁻	3	0.011 1	
2691 2	2 ⁺	2	0.027 3	
2702 2	2 ⁺	2	0.0055 9	
2731.6 5	3 ⁻	3	0.007 1	
2741 5	2 ⁺	2	0.0041 9	
2775 5	3 ⁻	3	0.0030 8	
2796 5	2 ⁺	2	0.008 1	
2844.5 5	3 ⁻	3	0.016 2	
2865.2 5	2 ⁺	2	0.011 1	
2883.5 5	3 ⁻	3	0.014 2	
2907.3 5	2 ⁺	2	0.0055 9	
2937.2 5	1 ⁺	2	0.0057 7	
2953 1	2 ⁺	2	0.010 1	
2960 1	1 ⁻		0.011 1	
2995.2 8	2 ⁺	2	0.0050 9	
3063.2 5	2 ⁺	2	0.079 7	
3073.6 5	1 ⁺	2	0.034 4	

Continued on next page (footnotes at end of table)

$^{200}\text{Hg}(\text{d},\text{d}') \quad 2015\text{RaZX}, 2014\text{RaZX}$ (continued) ^{200}Hg Levels (continued)

<u>E(level)[†]</u>	<u>J^π</u>	<u>L[†]</u>	<u>dσ/dΩ(max), mb/sr</u>	<u>E(level)[†]</u>	<u>J^π</u>	<u>L[†]</u>	<u>dσ/dΩ(max), mb/sr</u>
3104.9 5	2 ⁺	2	0.010 1	3695 2	3 ⁻	3	0.0050 9
3131.4 5	2 ⁺	2	0.014 2	3702 1	2 ⁺	2	0.006 1
3142 5	3 ⁻	3	0.0051 9	3710 2	3 ⁻	3	0.0030 9
3171.1 5	3 ⁻	3	0.013 1	3722 2	3 ⁻	3	0.0036 8
3182 5	2 ⁺	2	0.007 1	3732 2	3 ⁻	3	0.0036 8
3212.7 9	3 ⁻	3	0.0040 7	3743 1	3 ⁻	3	0.028 3
3225 1	2 ⁺	2	0.0045 7	3764 1	2 ⁺	2	0.015 2
3242 2	3 ⁻	3	0.0018 4	3774 1	3 ⁻	3	0.025 3
3256.1 6	2 ⁺	2	0.013 3	3790 2	2 ⁺	2	0.005 2
3304 1	3 ⁻	3		3797 2	2 ⁺	2	0.008 1
3323 8	2 ⁺	2	0.007 1	3808 1	2 ⁺	2	0.016 2
3372.1 8	2 ⁺	2	0.009 1	3826 2	2 ⁺	2	0.006 1
3384.2 8	2 ⁺	2	0.009 1	3840 2	3 ⁻	3	0.0039 8
3404 1	0 ⁺	2	0.0047 9	3892 2	2 ⁺	2	0.005 1
3411 2	2 ⁺	2	0.0035 8	3899 2	2 ⁺	2	0.0028 8
3420.8 7	3 ⁻	3	0.030 4	3918 2	2 ⁺	2	0.0043 9
3434 1	3 ⁻	3	0.010 3	3930 2	3 ⁻	3	0.0029 7
3511.3 7	2 ⁺	2	0.062 7	3961 2	2 ⁺	2	0.0047 8
3529 9	3 ⁻	3	0.021 4	3984 2	2 ⁺	2	0.007 1
3541 1	3 ⁻	3	0.011 3	3990 2	3 ⁻	3	0.011 1
3547 1	2 ⁺	2	0.015 2	4000 2	3 ⁻	3	0.022 2
3559 1	3 ⁻	3	0.007 1	4018 2	3 ⁻	3	0.007 1
3567.7 9	1 ⁺	2	0.024 3	4027 3	2 ⁺	2	0.0042 7
3584.9 9	2 ⁺	2	0.039 4	4114 3	2 ⁺	2	0.007 1
3606 1	3 ⁻	3	0.0045 7	4122 3	2 ⁺	2	0.006 1
3619 1	3 ⁻	3	0.005 1	4134 3	2 ⁺	2	0.005 1
3637 1	2 ⁺	2	0.006 1	4142 3	3 ⁻	3	0.005 1
3676 1	2 ⁺	2	0.009 1	4159 3	2 ⁺	2	0.004 1

† From 2015RaZX.