

The Schumann-Runge absorption bands ($B(v) \ ^3\Sigma_u^- - X(v) \ ^3\Sigma_g^-$) of the $^{16}\text{O}_2$. Lines with B are blended. Lines with E are extra lines resulting from the perturbation.

N	B(0)-X(0) band				B(1)-X(0) band			
	R(N)	$R_i(N)$	P(N)	$P_i(N)$	R(N)	$R_i(N)$	P(N)	$P_i(N)$
1	49360.01	49360.39	49335.25		50047.45		50042.80	
3	49357.07	49357.37	49345.79		50044.40		50033.19	
5	49349.06	49349.39	49331.21	49331.42	50036.05		50018.51	
7	49336.03	49336.46	49311.69	49311.94	50022.64	50022.93B	49998.70	
9	49318.02	49318.48	49287.18	49287.60	50004.14	50004.48B	49973.79	49974.08B
11	49294.99	49295.58	49257.76	49258.15	49980.44	49980.89B	49943.76	49944.15B
13	49267.00	49267.68	49223.18	49223.66	49951.70	49952.16B	49908.65	49909.18B
15	49234.00	49234.79	49183.72	49184.31	49917.84	49918.57B	49868.46	49868.97B
17	49195.98	49196.96	49139.37	49140.06	49878.96	49879.58B	49823.15	49823.77B
19	49153.06B	49153.80	49089.80B	49090.70	49834.85	49835.57B	49772.71	
21	49105.02		49035.47	49036.55	49785.55	49717.33		
23					49731.35			

N	B(2)-X(0) band				B(3)-X(0) band	
	R(N)	$R_i(N)$	P(N)	$P_i(N)$	R(N)	P(N)
1	50712.56		50707.92		51353.65	
3	50709.24	50709.51B	50698.31		51350.26	51339.74
5	50700.61	50701.01B	50683.38	50683.65B	51341.23	51324.47
7	50686.80	50687.10B	50663.28	50663.66B	51327.02	51303.98
9	50667.75	50668.27B	50637.94	50638.35B	51307.42	51278.21
11	50643.46	50644.08B	50607.41	50607.80B	51282.50	51247.12
13	50613.95	50614.50B	50571.66	50572.13B	51252.19	51210.67
15	50579.23	50579.92B	50530.68	50531.29B	51216.54	51168.90
17	50539.27	50540.08B	50484.53	50485.22B	51175.52	51121.87
19	50494.06	50494.98B	50433.10	50433.87B	51129.19	51069.43
21	50443.61	50444.64B	50376.49	50377.51B	51077.48	51011.66
23	50388.01	50388.69B	50314.67	50315.57B	51020.43	50948.59
25	50327.10	50327.78B	50247.70	50248.60B	50957.74	50880.11
27	50261.09	50261.49B	50175.44		50890.28	50806.39
29					50818.46	50727.12

N	B(4)-X(0) band		B(5)-X(0) band		B(6)-X(0) band	
	R(N)	P(N)	R(N)	P(N)	R(N)	P(N)
1	51970.44B	51967.25B	52562.47	52559.67B	53124.02	53119.88B
3	51967.25	51956.80B	52558.68	52548.61B	53119.88B	53109.83B
5	51957.62	51942.09	52548.88	52533.05B	53109.83B	53094.01B
7	51942.90	51921.07	52533.52	52512.11B	53094.01B	53072.45B
9	51921.51	51894.70	52512.53	52485.07	53072.45B	53045.10B
11	51897.84	51862.85	52486.14	52452.75	53045.10B	53012.03B
13	51865.85	51825.67	52454.03	52414.78	53012.03B	52973.23B
15	51829.29	51783.07	52416.37	52371.15	52973.23B	52928.63B
17	51787.27	51735.01	52373.09	52321.98	52928.63B	52878.34B
19	51739.64	51681.42	52324.25	52267.26	52878.34B	52822.24B
21	51686.70	51622.47	52269.60	52206.88	52822.24B	52760.45B
23	51628.01	51557.89	52209.35	52140.88	52760.45B	52692.84B
25	51565.56	51488.34B	52143.49	52069.59	52692.84B	52619.59B
27	51494.17	51412.99	52070.92	51991.96	52619.59B	52540.38B
29			51994.85	51909.19	52540.38B	
31			51912.44			
33				51726.48		

N	B(7)-X(0) band				B(8)-X(0) band	
	R(N)	$R_i(N)$	P(N)	$P_i(N)$	R(N)	P(N)
1	53657.29		53653.07B		54157.41	54153.10B
3	53653.07B		53642.80		54152.45	54142.76B
5	53642.80		53626.66		54141.68	54126.47
7	53626.11		53604.96		54124.48	54104.07
9	53603.92		53577.03		54101.34	54075.54
11	53575.72		53543.43		54072.00	54040.90
13	53541.51		53503.64		54036.63	54000.15
15	53501.31		53458.07		53995.16	53953.39
17	53455.17		53406.51	53406.89B	53947.55	53900.42
19	53403.29	53403.67B	53349.02	53349.37B	53893.80	53841.40
21	53345.22	53345.73B	53285.53	53286.21B	53833.95	53776.27
23	53281.18	53281.60B	53216.12	53216.57B	53767.89	53704.97
25	53211.15	53212.00B	53140.93	53141.56B	53695.72	
27	53135.27	53135.97B	53059.69		53617.50	
29	53053.01				53532.46	
31	52965.49					

B(9)-X(0) band						
N	$R_1(N)$	$R_2(N)$	$R_3(N)$	$P_1(N)$	$P_2(N)$	$P_3(N)$
1	54622.92	54625.23B		54618.43B		
3	54617.83			54608.64	54609.34B	
5	54606.33	54606.69B		54592.01	54592.40B	
7	54588.54	54588.99B		54569.00	54569.28B	
9	54564.38	54564.74B		54539.68	54539.91B	
11	54533.95	54534.25B		54504.05	54504.35B	
13	54497.23	54497.68B		54462.15	54462.56B	
15	54454.07	54454.48B		54413.88	54414.40B	
17	54404.62	54405.14B		54359.35	54359.81B	54360.13B
19	54348.66	54349.43B	54349.91B	54298.48	54298.88B	54299.35B
21	54286.83	54287.27B	54287.71B	54231.35	54231.93B	
23	54218.35	54218.84B	54219.45B	54157.70		
25	54143.01			54078.07		
27	54062.12	54063.44B		53992.21		
29	53974.61	53975.63B	53976.76B			
31				53800.14	53801.40B	

B(10)-X(0) band						
N	$R_1(N)$	$R_2(N)$	$R_3(N)$	$P_1(N)$	$P_2(N)$	$P_3(N)$
1	55051.53	55053.76		55047.37		
3	55046.20			55037.34		
5	55034.16	55033.81		55020.16	55020.35	
7	55015.37	55015.62		54996.60	54996.80	
9	54990.14	54990.51		54966.35	54966.64	
11	54958.32	54958.79		54929.75	54930.04	
13	54920.11	54920.64		54886.65	54886.99	
15	54875.29	54876.00		54836.87	54837.35	
17	54823.97	54824.71	54825.15	54780.64	54781.33	
19	54765.99	54766.86	54767.08	54717.71	54718.60	54718.98
21	54701.46	54702.52	54703.09	54648.52	54649.26	54649.66
23	54630.27	54631.32	54631.94	54572.50	54573.38	54573.90
25	54552.45	54553.64	54554.20	54489.98	54491.08	54491.67
27	54467.89	54469.08	54469.59	54400.78	54401.96	
29	54376.64	54377.93		54304.94	54306.03	54306.81
31	54278.70	54280.12	54281.15	54202.42	54203.63	
33				54093.09		

B(11)-X(0) band						
N	$R_1(N)$	$R_2(N)$	$R_3(N)$	$P_1(N)$	$P_2(N)$	$P_3(N)$
1	55439.23			55435.30B		
3	55433.59			55425.12	55425.60B	
5	55420.89			55407.67	55407.99B	
7	55401.31			55383.61		
9	55374.80B	55375.16		55352.17	55352.54	55352.93
11	55341.54	55342.12		55314.42B	55314.88	
13	55301.77	55302.46		55269.85B	55270.40	
15	55255.02	55255.88		55218.42	55219.08	
17	55201.46	55202.57		55160.19	55160.74	55161.25
19	55140.97	55142.37		55095.37	55096.37	
21	55073.77	55075.11	55075.56	55023.52	55024.66	55025.15
23	54999.39	55001.02		54944.86	54946.14	54946.66
25				54859.91	54860.91	
27	54830.36	54832.12	54833.37			
29				54667.40		

B(12)-X(0) band						
N	$R_1(N)$	$R_2(N)$	$R_3(N)$	$P_1(N)$	$P_2(N)$	$P_3(N)$
1	55784.253	55785.083B		55780.703		
3	55777.781	55778.593B	55778.922B	55769.950	55770.707B	55771.260B
5	55764.225	55765.063B	55765.380B	55751.945	55752.719B	55752.975B
7	55743.605	55744.525B	55744.892B	55726.883	55727.694B	55727.973B
9	55715.943	55716.954B	55717.387B	55694.790	55695.668B	55696.007B
11	55681.214B	55682.348B	55682.846B	55655.627	55656.617B	55657.026B
13	55639.420B	55640.661B	55641.264B	55609.433	55610.540B	55611.017B
15	55590.502	55591.869B	55592.604B	55556.173B	55557.394B	55557.977B
17	55534.482	55536.000B	55536.804B	55495.809	55497.156B	55497.872B
19	55471.235	55472.921B	55473.839B	55428.351	55429.857	55430.643
21	55400.804B	55402.590B	55403.556B		55355.22	55356.05
23	55323.13	55325.19	55326.28		55273.58	55274.33
25	55238.21	55239.52	55240.36	55182.84	55184.85	55185.77
27	55145.94	55148.35	55149.59	55086.54	55088.76	55090.24

B(13)-X(0) band						
N	$R_1(N)$	$R_2(N)$	$R_3(N)$	$P_1(N)$	$P_2(N)$	$P_3(N)$
1	56084.434B	56085.701		56081.080		
3	56077.440	56078.674B	56079.008B	56070.131B	56071.324B	56071.898B
5	56063.009	56064.326B	56064.611B	56051.607	56052.800B	56053.060
7	56041.204	56042.622B	56042.979B	56025.667	56026.958B	56027.204B
9	56012.031	56013.576B	56014.051B	55992.373	55993.765B	55994.094B
11	55975.464	55977.150	55977.769	55951.708	55953.239	55953.690
13	55931.497	55933.336	55934.110	55903.672	55905.344	55905.943
15	55880.079	55882.104	55883.036	55848.246	55850.063	55850.820
17	55821.193	55823.391	55824.518	55785.385B	55787.394B	55788.308
19	55754.798	55757.168	55758.519	55715.072	55717.249B	55718.357
21	55680.820B	55683.432B	55684.950	55637.264	55639.613B	55640.946B
23	55599.217	55602.089	55603.795	55551.889	55554.483	55555.982B
25	55509.913	55512.995	55514.907	55458.980	55461.821	55463.433
27				55358.260	55361.280	55363.250

B(14)-X(0) band						
N	$R_1(N)$	$R_2(N)$	$R_3(N)$	$P_1(N)$	$P_2(N)$	$P_3(N)$
1	56338.537	56340.393		56335.367		
3	56330.945	56332.776B	56333.115B	56324.239	56326.017B	56326.614B
5	56315.553	56317.510	56317.806B	56305.110B	56306.901B	56307.167B
7	56292.443B	56294.571B	56294.960B	56278.209	56280.144B	56280.400B
9	56261.606	56263.928B	56264.492B	56243.609	56245.715B	56246.076B
11	56223.033	56225.572	56226.332	56201.296	56203.590	56204.131
13	56176.682	56179.474B	56180.439	56151.254	56153.764	56154.502B
15	56122.533	56125.569	56126.772	56093.438	56096.217	56097.157B
17	56060.495	56063.845	56065.284	56027.831	56030.849	56032.051
19	55990.537	55994.210B	55995.881	55954.354	55957.669	55959.122
21	55912.606	55916.564	55918.552B	55872.970	55876.618	55878.314
23	55826.598	55830.895	55833.244	55783.675B	55787.615B	55789.564
25	55732.448	55737.195	55739.752	55686.284	55690.561	55692.814
27	55629.95	55635.05	55638.09	55580.68	55585.34	55587.99
29	55519.10	55524.71	55528.17	55466.93	55472.03	55475.01
31				55344.82		

B(15)-X(0) band						
N	$R_1(N)$	$R_2(N)$	$R_3(N)$	$P_1(N)$	$P_2(N)$	$P_3(N)$
1	56547.488	56550.287		56544.549		
3	56539.264B	56542.043B	56542.387B	56533.184B	56535.911	56536.599
5	56522.841	56525.779B	56526.140B	56513.433	56516.168B	56516.440B
7	56498.308	56501.528B	56502.032B	56485.490	56488.416B	56488.734B
9	56465.665	56469.172	56469.911	56449.479B	56452.673B	56453.149B
11	56424.894B	56428.744	56429.757	56405.354	56408.835	56409.550
13	56375.966	56380.168	56381.505	56353.104	56356.936B	56357.928
15	56318.811	56323.419	56325.092B	56292.719B	56296.904	56298.222
17	56253.380	56258.404	56260.451	56224.126	56228.706	56230.343
19	56179.576B	56185.091	56187.525	56147.271	56152.265	56154.290B
21	56097.376B	56103.366	56106.251	56062.091	56067.523	56069.952B
23	56006.557	56013.310B	56016.536	55968.439	55974.405	55977.284
25	55907.147	55914.312	55918.320B	55866.272	55872.988	55876.161
27	55798.82	55806.54	55811.03	55755.36	55762.49	55766.34
29	55681.60	55689.84	55694.91	55635.78	55643.51	55648.04
31		55564.44	55570.42	55507.31	55515.50	55520.59
33					55378.88	

B(16)-X(0) band						
N	$R_1(N)$	$R_2(N)$	$R_3(N)$	$P_1(N)$	$P_2(N)$	$P_3(N)$
1	56714.654	56718.974	56721.726	56711.922		
3	56705.765B	56710.046B	56710.497B	56700.350B	56704.601	56705.429B
5	56688.254	56692.735B	56693.248B	56679.929	56684.171B	56684.549B
		56693.671E				
7	56662.217B	56666.791B	56667.797B	56650.912	56655.366B	56655.841B
		56667.595E			56656.332E	
9	56627.670	56633.217B	56633.999	56613.384	56617.933	56618.911B
		56632.049E			56618.738E	
11	56584.587	56590.564	56591.800	56567.358	56572.881	56573.639
		56588.623E			56571.713E	
13	56532.932B	56539.377B	56541.112	56512.789	56518.738	56519.969
15	56472.566	56479.625	56481.854	56449.731B	56456.115	56457.820
17	56403.545	56411.163	56414.003	56377.881	56384.909	56387.132
19	56325.680	56333.893	56337.347B	56297.424	56305.009B	56307.839
21	56238.905	56247.667	56251.952	56208.142	56216.360	56219.790
23	56143.083		56157.341	56110.010	56118.764	56123.055
25	56038.115	56047.130		56002.776		56016.962
27	55923.64		55938.61	55886.39	55895.40	55901.47
29	55799.72	55809.85	55819.95	55760.64	55772.70	55775.60
31	55666.00	55677.37		55625.40		
33	55522.13			55480.42	55491.74	

B(17)-X(0) band						
N	$R_1(N)$	$R_2(N)$	$R_3(N)$	$P_1(N)$	$P_2(N)$	$P_3(N)$
1	56844.985	56851.566		56842.461B		
3	56835.424	56842.048B	56842.585B	56830.693	56837.190B	56838.137
5	56816.843B	56823.719B	56824.240	56809.611	56816.171B	56816.637B
7	56789.311B	56796.591	56797.400	56779.502	56786.351B	56786.833B
9	56752.827	56760.620	56761.876	56740.478	56747.734	56748.519
11	56707.384	56715.719	56717.581B	56692.511B	56700.283B	56701.513
13	56652.945	56661.830	56664.403	56635.591	56643.923	56645.754
15	56589.411	56598.679	56602.206	56569.686	56578.547	56581.094
		56606.869E				
17	56516.705B	56526.050B	56530.835	56494.689	56503.998	56507.454
		56531.874E				
19	56434.713	56443.080	56448.523B	56410.594	56419.940	56424.631B
		56448.523E			56425.705E	
21	56343.320	56356.987B	56361.743	56317.176	56325.525	56330.949
		56349.451E				
23	56242.458	56256.545		56214.398	56228.038	56232.742
25	56131.98	56146.49		56102.16	56116.21	56121.24

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