

# The Far-Infrared Spectrum of HI

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TABLE I

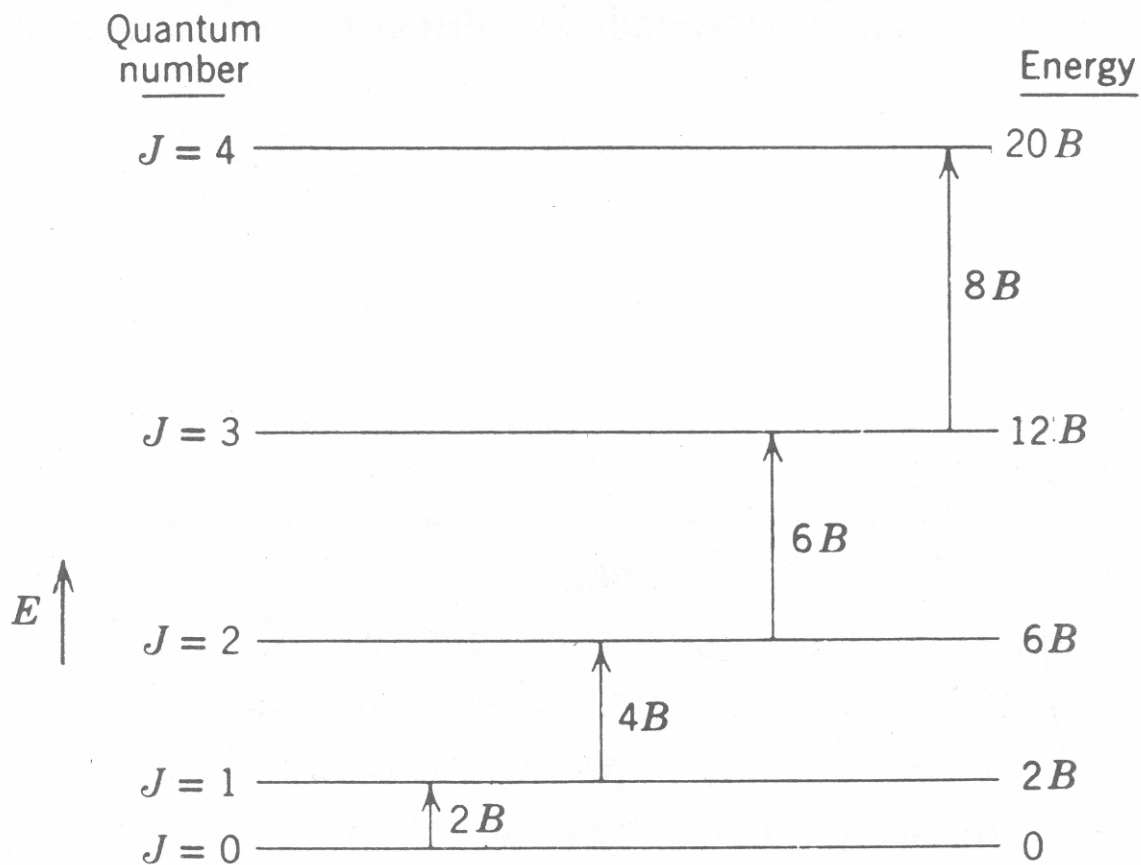
Rotational Transitions of H <sup>127</sup> I (MHz) <sup>a</sup>							
J'	F'	J''	F''	Observed	Calculated	O-C	(O-C) <sup>b</sup>
1	3/2	0	5/2	385545.136 (08)	385545.152	-0.016	2.0
1	5/2	0	5/2	384997.515 (12)	384997.533	-0.018	1.5
1	7/2	0	5/2	385382.655 (12)	385382.684	-0.028	2.3
2	1/2	1	3/2	770540.365 (18)	770540.378	-0.013	0.7
2	3/2	1	3/2	770305.770 (13)	770305.797	-0.026	2.1
2	3/2	1	5/2	770853.401 (17)	770853.415	-0.014	0.8
2	5/2	1	3/2	770045.547 (14)	770045.538	0.009	0.7
2	5/2	1	5/2	770593.151 (11)	770593.156	-0.005	0.4
2	5/2	1	7/2	770207.995 (19)	770208.005	-0.011	0.6
2	7/2	1	5/2	770502.828 (11)	770502.842	-0.014	1.3
2	7/2	1	7/2	770117.661 (11)	770117.691	-0.031	2.8
2	9/2	1	7/2	770471.933 (11)	770471.937	-0.004	0.4
4	3/2	3	1/2	1539633.335 (11)	1539633.346	-0.011	1.1
4	3/2	3	3/2	1539797.444 (12)	1539797.432	0.012	1.0
4	3/2	3	5/2	1540009.905 (42)	1540009.930	0.035	0.8
4	5/2	3	3/2	1539602.275 (10)	1539602.266	0.009	0.9
4	5/2	3	5/2	1539814.763 (10)	1539814.764	-0.001	0.1
4	5/2	3	7/2	1539984.268 (19)	1539984.248	0.020	1.1
4	7/2	3	5/2	1539616.388 (10)	1539616.385	0.003	0.3
4	7/2	3	7/2	1539785.881 (10)	1539785.869	0.012	1.1

TABLE II

Rotational and Hyperfine Parameters for H <sup>127</sup> I (MHz) <sup>a</sup>	
Parameter	Value
B <sub>0</sub>	192657.5744(16)
D <sub>0</sub>	6.202532(47)
H <sub>0</sub>	8.6610(512) × 10 <sup>-5</sup>
L <sub>0</sub>	-5.44(175) × 10 <sup>-9</sup>
eqQ	-1828.059(51)
χ <sub>J</sub>	-9.12(21) × 10 <sup>-2</sup>
C <sub>I</sub>	0.3525(12)

<sup>a</sup>2σ uncertainties (95% confidence level) in the last digits are shown in parentheses. The number of significant figures is chosen to reproduce the measured frequencies to 20 kHz accuracy (see text).

## Rotational Energy Levels and Wavenumbers of Allowed Transitions



## Typical Pure Rotational Spectrum

