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### *l*-type Doubling Spectra of HCN and DCN

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Microwave absorption lines corresponding to the direct transitions between *l*-type doublets of hydrogen cyanide have been reported by several authors.<sup>1)-4)</sup> This is the second note from our laboratory reporting one additional line of HCN ( $J=7$ ) and three of DCN ( $J=7, 8, 9$ ) in the frequency range between 10,000 and 17,000 Mc/sec. The observed frequencies  $\nu$  are given in Table I. The *l*-type doubling constants  $q=\nu/J(J+1)$  are in good agreement with those calculated from the formulae given before:<sup>4)</sup>

$$\text{HCN: } q=224.478-0.002667 J(J+1) \text{ Mc/sec}$$

$$\text{DCN: } q=186.193-0.002197 J(J+1) \text{ Mc/sec.}$$

Table I. Observed frequencies and *l*-type doubling constants for HCN and DCN.

1) HCN

$J$	$\nu$ (Mc/sec)	$q=\nu/J(J+1)$	$q=224.478$ $-0.002667 J(J+1)$
7	$12562.46 \pm 0.03$	224.330	224.329

2) DCN

$J$	$\nu$ (Mc/sec)	$q=\nu/J(J+1)$	$q=186.193$ $-0.002197 J(J+1)$
7	$10419.88 \pm 0.03$	186.069	186.070
8	13394.50	186.035	186.035
9	16739.42	185.994	185.995

### References

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