

FUNDAMENTAL AND OVERTONE INTENSITIES FOR OH STRETCHING BANDS

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Integrated absorption intensities of OH stretching bands, from the fundamental through the third overtone, have been measured for vapor-phase methanol, ethanol, isopropanol, n-propanol, 1,1,1-trifluoroethanol, tertiary butanol, and nitric acid. Several trends apparent in these data will be discussed. For example, the fundamental OH band intensities are much more consistent than those in CH containing molecules^{ab}. Furthermore, the overtone intensities are even more consistent, and appear to be essentially identical for the second overtone, at least among the compounds examined thus far. Trends in the intensities as a function of excitation level will be modeled, and the dipole moment functions which result from this procedure will be compared to those obtained from molecular orbital calculations.

^aA. Amrein, H. Dubal, M. Lewerenz, and M. Quack, *Chem. Phys. Lett.* 112, 387 (1984).

^bG. Longhi, G. Zerbi, L. Ricard, and S. Abbate, *J. Chem. Phys.* 88, 6733 (1988).