THE ν_1 BAND OF HOBr, E. A. COHEN, G. A. MCRAE, A. T. L. TAN, R. R. FRIEDL, J. W. C. JOHNS, AXD M. NOEL

The ν_1 band of HOBr centered at 3614.903 cm^{-1} has been observed at 0.006 cm^{-1} resolution. The band is a hybrid type with $|(\partial\mu_b/\partial Q_1)/(\partial\mu_a/\partial Q_1)| \approx 0.84$. The spectra of both bromine isotopes have been simultaneously fitted with a single calculation which includes all the previously reported rotational transitions. There appear to be no strong local perturbations to complicate the fitting of the line positions. There is a prominent Herman-Wallis effect for the b-type transitions which is well described by linear and quadratic terms in K_a. Precise parameters for the upper states and improved parameters for the ground states of both species will be presented as will the Herman-Wallis factor. The rotational constants for the ground state and all three fundamental vibrations will be summarized and the equilibrium structure will be shown.

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Time required: 15 min.

Recommended session: 4 or 11