SPECTROSCOPY OF THE $\nu_1+\nu_2-\nu_3$, $2\nu_1-\nu_3$, $2\nu_1$, $3\nu_1$, $2\nu_1+\nu_3$ AND $3\nu_1+\nu_3$ OVERTONE AND COMBINATION BANDS OF BrNO

PATRICK E. GODFREY, *Air Force Research Laboratory, 3109 P Street, Wright-Patterson Air Force Base, OH 45433- 7700*; GLEN P. PERRAM, *Department of Engineering Physics, Air Force Institute of Technology, Wright-Patterson Air Force Base, OH 45433*.

The rotation structure of the $\nu_1 + \nu_2 - \nu_3$, $2\nu_1 - \nu_3$, $2\nu_1$, $3\nu_1$, $2\nu_1 + \nu_3$ and $3\nu_1 + \nu_3$ overtone and combination bands of BrNO were examined at high resolution (.005 - .01 cm^{-1}) using Fourier Transform Spectroscopy. Over 4900 spectral lines were recorded for the two isotopomers ^{79}BrNO and ^{81}BrNO. The rotational and quartic distortion terms, inertia defects and asymmetry parameters were determined for the (200), (300), (001), (200), (301) and (110) vibrational levels. The first-order vibration-rotation interaction terms were also determined.