THE FOURIER TRANSFORM SPECTRUM OF B - X BAND SYSTEM OF ALO

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The spectrum of B - X system of AlO has been recorded on BOMEM DA8 F. T. spectrometer at an apodized resolution of 0.05 cm^{-1}. Nineteen bands of the Δv = 1, 0, -1 and - 2 sequences of this system have been analyzed for the rotational structure, out of which seven bands, viz. 3-2, 4-3, 2-3, 3-4, 4-5, 5-6 and 6-7 have been analyzed for the first time. The rotational lines of these bands along with earlier analyzed bands, a total of 7200 lines have been fitted in a simultaneous least squares fit. The study has resulted in determining more precise vibrational and rotational constants of the two states. Because of the high resolution employed it became necessary to invoke H_0 and H_1 coefficients, and a fifth order term to explain the anomalous spin-doubling observed in the v" = 5, 6 and 7 levels of the $X^2\Sigma^+$ state.