

## HIGH RESOLUTION FTIR STUDIES OF THE $\nu_2$ BAND OF CH<sub>2</sub>F<sub>2</sub>

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The very weak  $\nu_2$  ( $1509.1\text{ cm}^{-1}$ ) band of the CH<sub>2</sub>F<sub>2</sub> molecule was observed for the first time in the infrared. The high resolution ( $0.002\text{ cm}^{-1}$ ) FTIR absorption data of this band have been analyzed by taking into account the Coriolis interaction with the  $\nu_8$  ( $1435.6\text{ cm}^{-1}$ ) level. A strong intensity perturbation was observed, which enhances the intensity of the  $\nu_2$  band. More than 1000 ( $J''=40, K_a''=20$ ) transitions were assigned in the  $\nu_2$  band and a simultaneous least squares fit of the data of the  $\nu_2$  and the  $\nu_8$  bands was carried out. The molecular parameters and the interaction parameters obtained from the fit, satisfactorily reproduce the observed relative intensities of the spectrum. By simulating the spectrum, we could also determine the relative sign of the transition dipole moments for  $\nu_2 \leftarrow 0$  and  $\nu_8 \leftarrow 0$  transitions.