

## SYNCHROTRON INFRARED SPECTROSCOPY OF $\nu_4$ , $\nu_{10}$ , $\nu_{11}$ AND $\nu_{14}$ STATES OF THIIRANE

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The high-resolution ( $0.001\text{ cm}^{-1}$ ) spectrum of thiirane has been recorded using the infrared beamline at the Australian synchrotron facility. Spectra have been recorded between  $750\text{ cm}^{-1}$  to  $1120\text{ cm}^{-1}$  and ro-vibrational transitions associated with four bands have been observed and assigned. Coriolis coupling was observed between the  $\nu_4$  ( $1024\text{ cm}^{-1}$ ) and the  $\nu_{14}$  ( $1050\text{ cm}^{-1}$ ) fundamentals as well as between  $\nu_{11}$  ( $825\text{ cm}^{-1}$ ) and the  $\nu_8$  ( $895\text{ cm}^{-1}$ ) fundamentals. The  $\nu_{10}$  ( $945\text{ cm}^{-1}$ ) fundamental was also observed and was found to have no significant perturbations associated with it. For each of the observed bands rotational, centrifugal distortion and Coriolis interaction parameters have been determined. The ground state constants have also been further refined.