LASER ABSORPTION AND EMISSION SPECTROSCOPY OF THE YELLOW GREEN BAND SYSTEM OF $TiCl^+$

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The Yellow-Green band system of $TiCl^+$ has been studied using a dual-beam laser absorption technique in a hollow cathode discharge[a], and conventional emission spectroscopy. The quartz discharge cell for emission spectroscopy consisted of a 5 cm long, 2 mm internal diameter capillary similar to that used for a velocity modulation emission spectroscopy[b]. The discharge was modulated at 25-125 kHz by a power supply which produced a bipolar sine wave. Samples of $TiCl_4$ in Ar were flowed slowly through the cell from the center of the capillary and symmetrically pumped out via the electrodes.
The Yellow-Green band system was observed previously in the emission[c] and absorption[d] spectra of $TiCl^+$. Molecular parameters and internuclear distances for the $[17.9]^3\Delta$ and $X^3\Phi$ states of the $^{48}Ti^{35}Cl^+$ and $^{48}Ti^{37}Cl^+$ isotopomers will be presented.

Work supported by AFOSR and the Mission Research Corporation.

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