

## LASER ABSORPTION AND EMISSION SPECTROSCOPY OF THE YELLOW GREEN BAND SYSTEM OF $\text{TiCl}^+$

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The Yellow-Green band system of  $\text{TiCl}^+$  has been studied using a dual-beam laser absorption technique in a hollow cathode discharge<sup>a</sup>, 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<sup>b</sup>. The discharge was modulated at 25-125 kHz by a power supply which produced a bipolar sine wave. Samples of  $\text{TiCl}_4$  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<sup>c</sup> and absorption<sup>d</sup> spectra of  $\text{TiCl}^+$ . Molecular parameters and internuclear distances for the  $[17.9]^3\Delta$  and  $X^3\Phi$  states of the  $^{48}\text{Ti}^{35}\text{Cl}^+$  and  $^{48}\text{Ti}^{37}\text{Cl}^+$  isotopomers will be presented.

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<sup>a</sup>L. A. Kaledin, A. L. Kaledin, and M. C. Heaven, *J. Mol. Spectrosc.* **179**, 246-252 (1996).

<sup>b</sup>W. Y. Fan and P. A. Hamilton, *Chem. Phys. Lett.* **230**, 555-560 (1994).

<sup>c</sup>W. J. Balfour and K. S. Chandrasekhar, *J. Mol. Spectrosc.* **139**, 245-252 (1990).

<sup>d</sup>L. A. Kaledin, J. P. Parrish, and M. C. Heaven, 51-*st* International Symposium on Molecular Spectroscopy, Paper ME08 (1996)