

QUANTITATIVE PARAMETERS FOR SOME LINES IN THE O₂ A- (NEAR 7620 Å) AND B- (NEAR 6880 Å) BANDS OBTAINED BY INTRACAVITY LASER SPECTROSCOPY

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Lines of the oxygen *A* band can be used to monitor the conditions of the Earth's atmosphere so experimental studies of the strongest lines in this band have been of interest recently. Employing the intracavity laser spectroscopy (ILS) technique with a dye laser, we measured 2 well-isolated lines in the oxygen *B* band and compared these results (line intensities and self-broadening coefficients) with values obtained by using a 2-meter long, Herriott-type, multi-pass cell. For the latter measurements, the same detection system as used in the ILS work was utilized and the broadband output from the ILS laser was the light source. Excellent agreement is observed between the two sets of measurements validating the experimental approach and the analysis method employed. The oxygen *A* band was examined using the same ILS technique with a Ti:sapphire laser. Intensity results will be presented for several isolated lines with focus on values for some weaker lines that have not been reported previously. This research was supported by grants from NASA's Planetary Atmospheres Program.