MOLECULAR CONSTANTS OF C_2 IN THE $c^3\Sigma_u^+$ STATE

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The $d^3\Pi_g - c^3\Sigma_u^+$ band system of C_2 was observed in a discharge flow cell by laser induced fluorescence spectroscopy. Although the observation of the band system has been reported for the jet-cooled C_2 molecule, [a] transitions involving higher rotational levels were observed in the present study. Improved molecular constants for several vibrational levels of the $c^3\Sigma_u^+$ state will be presented. Furthermore, the bands with $v'' = 5, 6, 7$ were newly observed in a discharged supersonic jet, of which molecular constants were determined for the first time.

[a] J. A. Joester *et al.*, J. Chem. Phys. 127, 214303 (2007).