

THE  $\tilde{A}$  STATES OF THE  $C_3$ -Ar AND  $C_3$ -Kr VAN DER WAALS COMPLEXES: FLUORESCENCE POLARIZATION AND SATURATION

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The degree of polarization of the laser-induced fluorescence of the  $\tilde{A}-\tilde{X}$  system of the  $C_3$ -Ar and  $C_3$ -Kr van der Waals complexes was determined and has been used to probe the orientation of the transition dipole of  $C_3$  with respect to the principal axis of each complex. The fluorescence polarization was measured near the  $2_0^{2-}$ ,  $2_0^{2+}$ ,  $1_0^1$  and  $2_0^{1+}3_0^1$  bands of  $C_3$  under supersonic expansion conditions. The results of polarization measurements of several van der Waals spectral features will be compared with those of the associated R(0) lines of free  $C_3$ . The effect of partial saturation on the fluorescence polarization measurements will be discussed.