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 fluoresence 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.