

Determination of the anisotropic optical properties for perfluorinated vanadyl phthalocyanine thin films

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Thin films of perfluorinated vanadyl phthalocyanine $F_{16}PcVO$ were prepared by physical vapor deposition in high vacuum on KBr and fused silica substrates. The absorption spectra in the visible region show that the films on different substrates have different structure. The optical constants for $F_{16}PcVO$ films were obtained in the spectral range of 0.7–4.5 eV from the simulation of ellipsometry spectra with an anisotropic uniaxial model. From the difference between the in-plane and out-of-plane components of the extinction coefficient the average tilt angle of the $F_{16}PcVO$ molecular planes with respect to the substrate plane was found to be 56° for fused silica substrates and between 0° and 3° for KBr substrates.

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