

The control of errors in i.r. spectrophotometry—IV. Corrections for dispersion distortion and the evaluation of both optical constants.

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Streszczenie

The internal reflections and interference effects within an absorption cell distort the shapes and intensities of i.r. absorption bands. The errors can be particularly severe for measurements on strong bands using thin liquid films. The primary causes are interference distortion within the film and reflection distortion at the boundaries with the cell windows. The two effects are interactive and the general term dispersion distortion can be applied to both. Similar effects occur in free standing solid films. These errors are discussed quantitatively on the basis of the optical considerations developed in the preceding paper. A method is described for their evaluation and elimination. This yields a corrected absorption spectrum in units of absorption index and also a refractive index spectrum (dispersion curve), so that both optical constants are derived at all points across the spectrum. Computer programs to aid with these computations have been developed and will be available.

Adres publiczny

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