Determination of Optical Constants of Semiconductor Thin Films by Ellipsometry

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Abstract : Ellipsometry is an optical method based on the study of the behavior of polarized light. The light reflected on a surface induces a change in the polarization state which depends on the characteristics of the material (complex refractive index and thickness of the different layers constituting the device). The purpose of this work is to determine the optical properties of semiconductor thin films by ellipsometry. This paper describes the experimental aspects concerning the semiconductor samples, the SE400 ellipsometer principle, and the results obtained by direct measurements of ellipsometric parameters and modelling using appropriate software.

Keywords : ellipsometry, optical constants, semiconductors, thin films
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