

EUV ellipsometric measurements: a proof of concept

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In this work, we present an EUV reflectometer facility located in the Institute for Photonics and Nanotechnologies-CNR Padua (Italy) and implemented for polarimetric measurements in 90-160 nm spectral range. The system was coupled with a four reflection EUV linear polarizer in order to be used as an EUV spectroscopic ellipsometry. The polarizer is based on four reflection gold coated mirrors and has been used together with a phase retarder reference sample to characterize the EUV reflectometer. The system has been used to characterize the optical and structural properties of a single layer of Aluminum as quarter wave retarder (QWR). The whole system consisting of the reflectometer and the polarizer can be a very promising laboratory system to characterize phase retarders, polarizers and other optics in the EUV region and to investigate the properties of thin films and optical coatings.