VUV reflectometer for in-situ measurement of coatings

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GOLD's reflectometer enables measuring absolute reflectance and transmittance versus incidence angle mainly in the 40-190 nm spectral range. VUV lines are generated with a windowless discharge lamp. The lamp is fed with various pure gases or gas mixtures with which it can generate many spectral lines to cover the spectral range of interest. The reflectometer chamber is connected in vacuum with two deposition chambers, one operating by evaporation and the other by ion-beam sputtering. Hence the reflectance/transmittance of a thin film or a multilayer can be measured in situ before the coating is exposed to the atmosphere. The combination of evaporation and sputtering permits the deposition of a wide range of materials. The two deposition chambers and the main reflectometer chamber operate in UHV conditions. In the presentation, examples of measurements performed with the reflectometer will be displayed. The reflectometer, covering an unusual spectral range, is offered to the community.