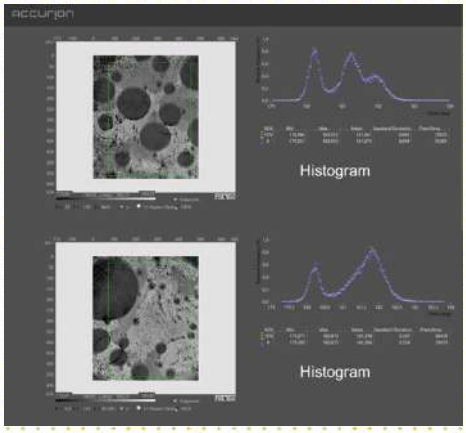
THICKNESS MAPS OF THIN FILMS ON THE WATER SURFACE BY IMAGING ELLIPSOMETRY

SAMPLE AND SETUP:

The water surface is of elementary interest as well in biophysics as in industrial applications. Brewster Angle microscopy is state of the are in label free imaging of the water surface but enable only an estimation of layer thicknesses.

To measure the thickness of ultra thin films, imaging ellipsometry is the method of choice and the **nanofilm_EP4** can also be operated as a Brewster angle microscope. To Avoid the disturbents by vibration, an sufficticated anti vibration concept based on active vibrations isolation is requiered.

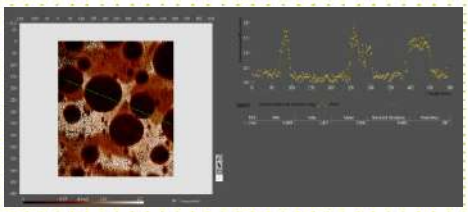
MEASUREMENT:

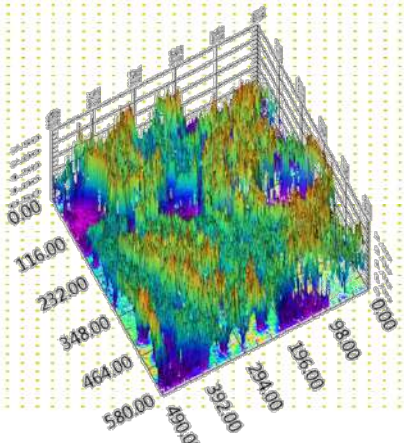


Droplets of a Ethyl-stearate (1 mg/ml in Hexane) were spread with a microliter syringe at a cleaned water surface. Microscopic Delta and Psi maps were recorded with an single wave imaging ellipsometer equipped with a red laser ($^{IE}EP4_{L658nm}$) and a 5x objective. The instrument was mounted on an active vibration isolation system (Halcyonics_vario40). A round Teflon trough equipped with a wedge shaped black glass plate was set on top of a table top active vibration isolation system (halcyonics _nano20).

RESULTS:

- microscopic Δ, Ψ maps
- Thickness maps on water





Park Systems GmbH - Accurion
Stresemannstr. 30 37079 Goettingen, Germany
+49-551-999600 (Germany)
parksystems.com inquiry@parksystems.com