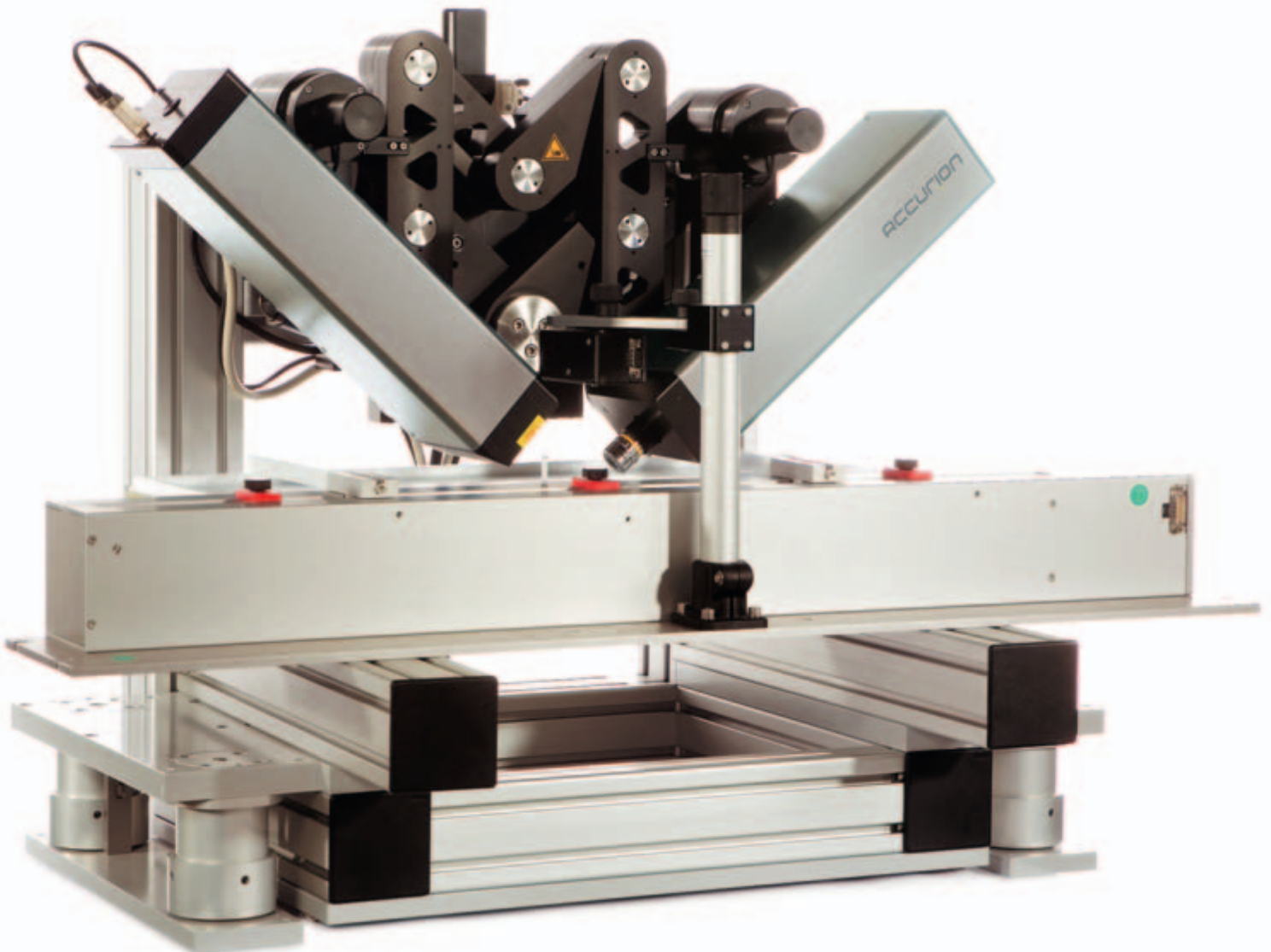


ACCURION

solutions for science

brewster angle microscopy
nanofilm_ep3bam

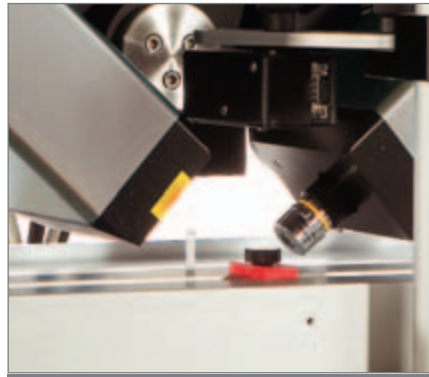


Brewster Angle Microscopy

nanofilm_ep3bam

ABSTRACT

Since its first presentation at the LB 6 conference in Paris, Brewster Angle Microscopy (BAM) has been established as a worldwide standard technique for the investigation of ultra-thin organic films. Nanofilm's BAM1 was the first commercially available Brewster Angle Microscopy. Based on our nanofilm_ep3 imaging ellipsometer platform, nanofilm_ep3bam provides the latest in imaging technology for unsurpassed image quality. The nanofilm_ep3bam software toolbox includes a special image processing tool and an integrated solution for quantitative analytical Brewster Angle Microscopy. Furthermore, if your thin film metrology needs expand, the nanofilm_ep3bam can be upgraded to a complete imaging ellipsometer without losing any of the functionality of a BAM.



Nanofilm_ep3bam with Langmuir trough

The capability to integrate troughs and other equipment from the leading companies in the LB-market results in a complete analytical environment to correlate the images of your ultrathin organic films, especially at the air-water interface, with a large range of surface chemical and physical properties.

APPLICATIONS

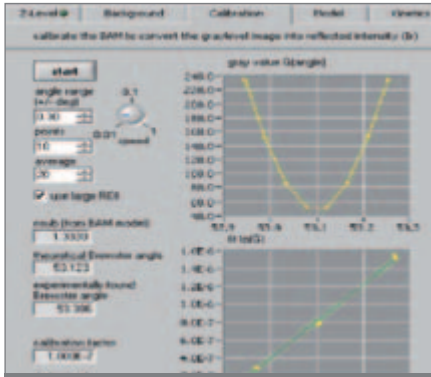
- monolayer phases
- domains and order phenomena
- transformation of monolayer into multilayered structures
- photochemical reactions e.g., photoisomerization
- LB-films on solid structures
- influences of various sub-phase compositions (counterions) on monolayer structures
- polymers and other materials that cannot be detected by fluorescence microscopy
- adsorption kinetics
- in-situ polymerization in monolayers
- phase separation
- quality and homogeneity of LB-films

BENEFITS

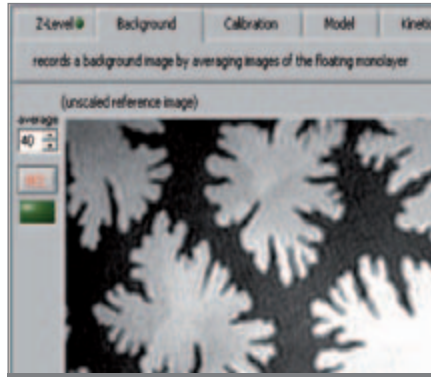
- Highest lateral resolution in the field of Brewster Angle Microscopy
- Real time imaging: direct visualization of your sample – you see what you are doing
- BAM tools offering quantitative BAM, level control and powerful background correction tools
- As a unique feature of the Accurion goniometer design, there are no bearings or mechanical mounts in the axis of rotation => free space for even large LB-troughs or space consuming samples

FEATURES

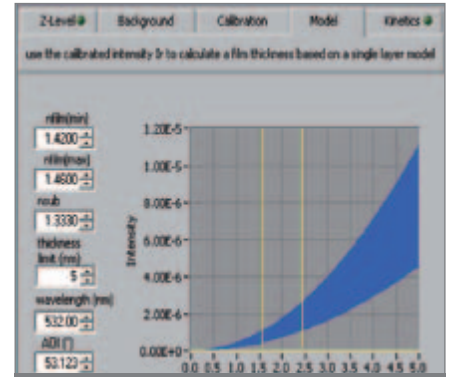
- Real time contrast image
- automatic Z tracking to follow changing water levels
- AVI recorder to create AVI videos during experiments
- Scripting language EP3 Script for automation, eg. automatic recording of images at predefined time intervals
- Analysis tools for analytical BAM (film thickness measurements by BAM)
- Remote control of the instrument possible due to LAN connection for application support or the use in a closed environment
- Software interface to NIMA or KSV trough systems



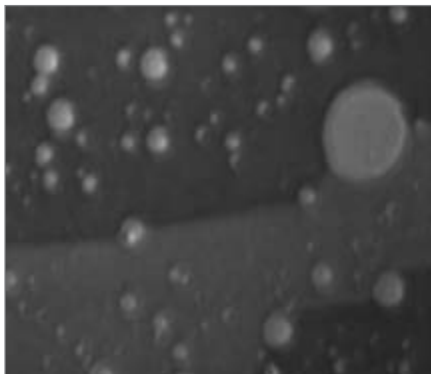
Fast BAM calibration



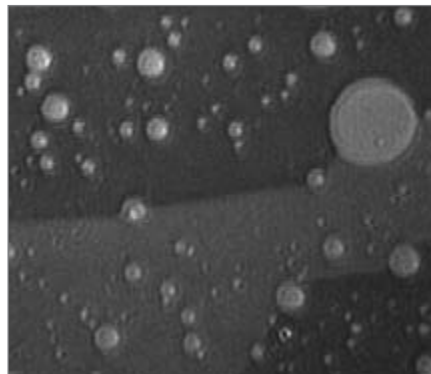
Easy background correction for higher image quality



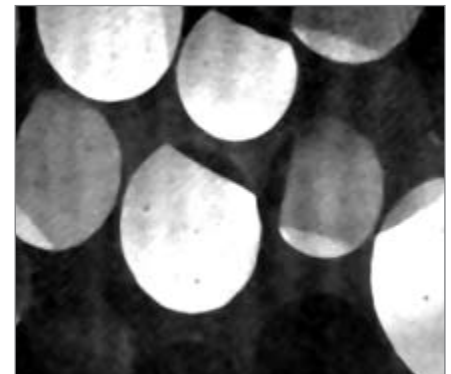
Easy modelling for BAM measurements



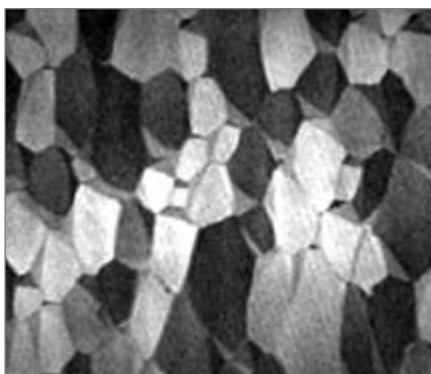
Overall focused BAM image without move correction



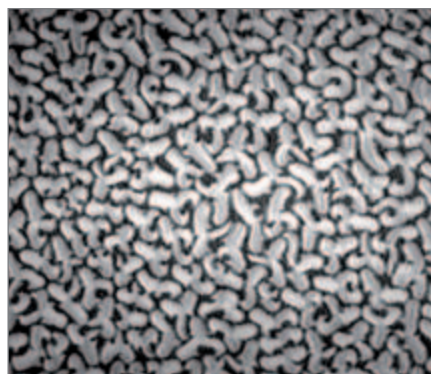
Overall focused BAM image with move correction



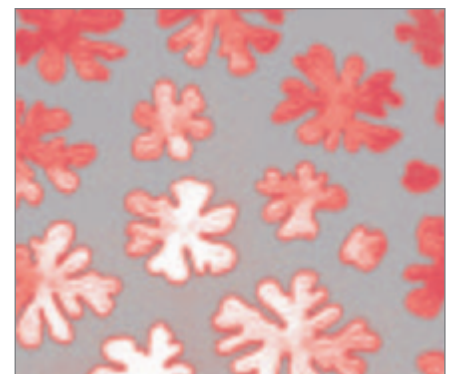
Domains of pentadecanoic acid in a monolayer on water



Domains of palmitic acid



Monolayer domains of racemic mixture of chiral phospholipids (D- and L-DPPC)



Sphingomyelin monolayer

UPGRADE POSSIBILITIES

- nanofilm_ep3: Upgrade to any Nanofilm Imaging Ellipsometer
- Combination of Imaging Ellipsometry and AFM

RECOMMENDED ACCESSORIES

- Laser Safety cabinet and dust protection
- Active Vibration Isolation
- Choice of exchangeable objectives: 2x, 5x, 20x objective
- ep3view Software Add Ons

- LB-Troughs
- Package integration with NIMA or KSV troughs
- Higher laser power available or fiber coupling to external laser sources
- Integration of additional laser for time resolved experiments etc.

