

Light scattering equipment at the University of Fribourg, Switzerland (10.12.2007)

Homepage:

http://www.unifr.ch/physics/mm/SCM_facilities.php

DLS/SLS:

- **ALV 5000** with Compass laser at 532 nm; options for nonergodic samples (cell rotation) and Echo DLS
Available for SoftComp partners: Estimated 45 days per year for each instrument
Training: On-site 1 day training and then collaborative work under supervision
Scientist in charge: Peter Schurtenberger

Electrophoretic Light Scattering:

- **Zetasizer Nano Z from Malvern** with HeNe laser at 632 nm; wide temperature range 2 – 90 C
Available for SoftComp partners: Estimated 45 days per year for each instrument
Training: no training required
Scientist in charge / contact person: Peter Schurtenberger

DLS/SLS with turbid samples:

- **3D cross correlation instrument from LS instruments** with HeNe laser at 632 nm; options for nonergodic samples (cell rotation) and sample goniometer for theta/2 theta geometry
- **Fixed-angle 3D cross correlation instrument** for measurements at high temperatures
- **Multi-angle 3D cross correlation instrument** for time-resolved SLS/DLS measurements (4 angles for simultaneous DLS/SLS)
Available for SoftComp partners: Estimated 45 days per year for each instrument
Training: On-site 1 day training and then collaborative work under supervision
Scientist in charge / contact person: Peter Schurtenberger

DLS/SLS with large structures:

- **2 small-angle light scattering instruments** with the following features: CCD camera based LS set-up for simultaneous SLS/DLS at ultrasmall angles (0.08 – 10 degree); $1.85 \times 10^{-5} < q < 2.3 \times 10^{-3} \text{ nm}^{-1}$; multispeckle correlation function analysis; horizontal and vertical sample geometry; shear cell with parallel plate geometry
Available for SoftComp partners: Estimated 45 days per year for each instrument
Training: On-site 1 day training and then collaborative work under supervision
Scientist in charge / contact person: Peter Schurtenberger

DLS/SLS at interfaces (available from the second half of 2008):

- **Evanescent Wave Dynamic Light Scattering (EWDLS):** EWDLS at liquid-liquid and liquid-air interfaces; additional reflection ellipsometry measurements possible
- **Ellipsometric Light Scattering (ELS):** extension of ellipsometry to scattering experiments; characterization of thin layers on colloids

- **Spectroscopic Ellipsometric Light Scattering (SELS):** CCD camera based multi-angle detection for ellipsometric light scattering
Available for SoftComp partners: Estimated 45 days per year for each instrument
Training: On-site 1 day training and then collaborative work under supervision
Scientist in charge / contact person: Reinhard Sigel

Diffusing Wave Spectroscopy (DWS):

- **3 DWS instruments:** 2 for general purposes, 1 standard microrheology set-up. All instruments equipped with combination of fast dynamics detection using APD's with double cell technique and slow dynamics using CCD multispeckle detection and/or DWS echo technique; backscattering and transmission mode
Available for SoftComp partners: Estimated 45 days per year for each instrument
Training: On-site 1 day training and then collaborative work under supervision
Scientist in charge / contact person: Peter Schurtenberger