

DS 42: Invited Roke

Time: Friday 10:15–11:00

Location: H2

Invited Talk

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A molecular view of the interfaces of colloidal particles and nanoscopic oil droplets in water — SYLVIE ROKE — Max-Planck Institute for Metals Research HeisenMax-Planck Institute for Metals Research, Heisenbergstrasse 3, 70569 Stuttgart, Germany

Second harmonic and sum frequency scattering spectroscopy offer a unique way of obtaining molecular information (chemical composition, molecular orientation, order and chirality) of the interfaces of micro-

and nanoscopic particles in a solution or in a solid matrix. These methods can be used to monitor the colloidal interfacial structure and changes therein (e.g. change in molecular order or charging). In this presentation I will start with a description of the scattering methods and show how molecular surface effects can be extracted from the scattered frequency domain spectrum and its angular distribution. Finally we show measurements on nanoscopic oil-in-water droplets that show how surfactants sit at the droplet oil-water interface and that these interfaces are very different from equivalent planar interfaces.