

第 121 回化学コロキウム(大学院GP 物理－化学合同セミナー)のご案内

日時：平成 20 年 5 月 30 日(金) 午後 1:30～3:30

場所：国際交流会館中会議室

演者：Walter Richtering (RWTH Aachen University, Germany)

演題：Shear Induced Structures in Lamellar Systems:
From Layers to Onions to Onions and Layers

Abstract: The shear induced size evolution of multilamellar vesicles (MLV, “Onions”) of a non-ionic surfactant system composed of 40wt% C₁₀E₃ in D₂O was investigated with the help of Rheo-Small Angle Neutron Scattering (SANS), Rheo-Small Angle Light Scattering (SALS) and optical microscopy. We will especially discuss shear quench experiments, i.e. when the shear rate is reduced. Two different pathways were observed. A continuous growth of vesicle size was found when the shear rate was reduced within the stability region of monodisperse MLV (Region III). However, a discontinuous pathway was observed for shear quenches from the monodisperse into the polydisperse MLV region (Region II). A shear quench into the high shear rate part of region II leads to a formation of lamellar domains which themselves follow the pathway of MLV formation in coexistence to the initial MLV structure. A shear quench into the low shear rate part region II leads to the formation of lamellar macro-domains, which display a tumbling behaviour and grow with time until the MLV formation process starts.

Richtering 教授は、界面活性剤・ブロック共重合体等が作る高次構造に対するずり流動場効果や刺激応答性ミクロゲルの研究で著名な方で、京都で開催される International Symposium on Non-Equilibrium Soft Matter の招待講演者として来日されます。セミナーの後、関連の研究をされている国内若手研究者を交えたミニシンポジウムを予定しています。

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