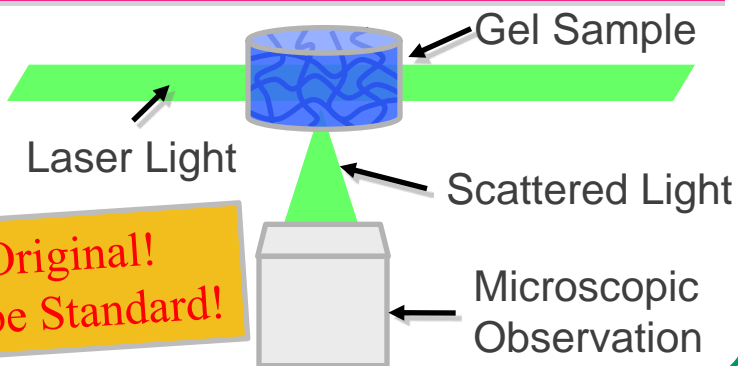


Optical In-Situ Characterization of Gel Materials and Wet Interfaces

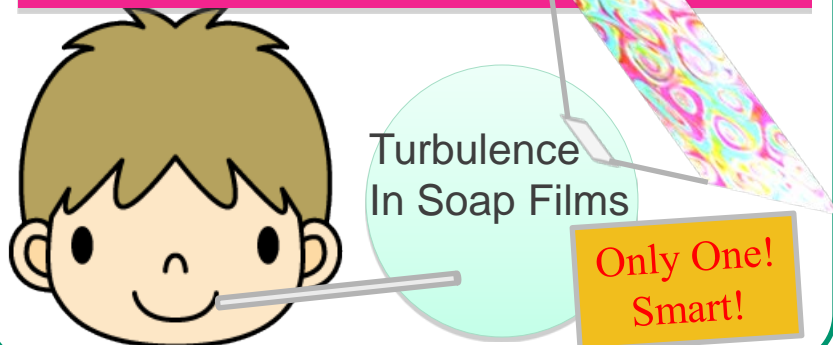
Professor Hidemitsu Furukawa

SMILS: Scanning Microscopic Light Scattering for Gel Characterization



Original!
To be Standard!

FIFI: Film Interference Flow Imaging for Wet Interface Characterization (Developed by Dr. Ruri Hidema)



Content:

Gels are being watched with keen interest, because they are in the same soft and wet state as our living bodies, and will make it possible to design and improve the qualities of health and environment. Gels are widely applied to many products, such as cosmetics, aromatics, water absorbent, refrigerant, cell-culture substrate, soft contact lens, wound coverage, drug delivery system, ion-exchange resin, desert greening, sludge disposal system, rechargeable battery, and so on. Recently, anomalously high-strength gels were developed. We hope these strong gels lead breakthrough and create new products.

Here, we are now developing new apparatuses to characterize the inside and surface structure and gels. *Scanning Microscopic Light Scattering* (abbreviated as **SMILS**) is our original apparatus, which can analyze the structure of gels nondestructively in wide spatio-temporal ranges. Also, *Film Interference Flow Imaging* (abbreviated as **FIFI**) is a new apparatus to analyze the dynamic structure of thin liquid layer between molecular membranes. We wish everyone could easily design and improve the new gel products by using the commercialized version of our original apparatuses in future.

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