

# Future Research in Soft Matter Science at Institute for Molecular Structure Science

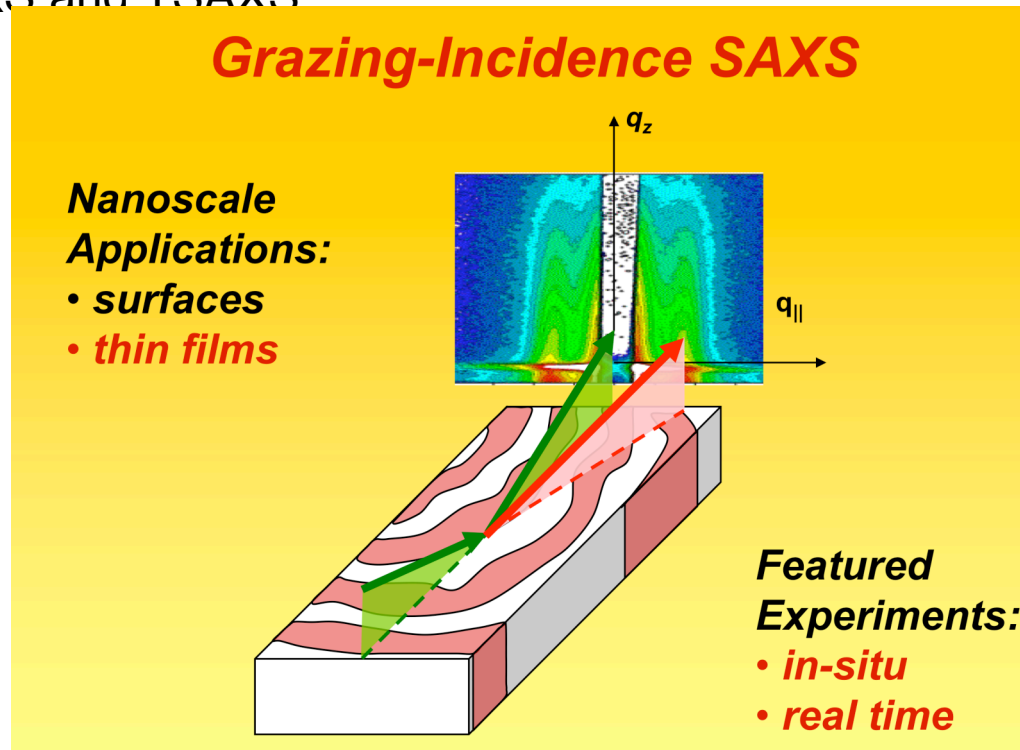
T. Kanaya  
Institute for Chemical Research, Kyoto University

# Professor Smilgies, CHESS, Cornell University

## Surface and interface

### Nanoscience

real time and in-situ experiments of solvent annealing of copolymer thin films and self-organization processes during swelling or drying by GISAXS and TSAXS



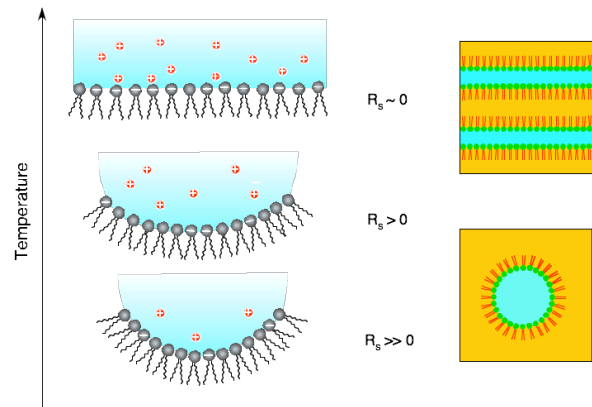
Future ERL beamline : Microbeam + SAXS

# Professor Seto, KEK

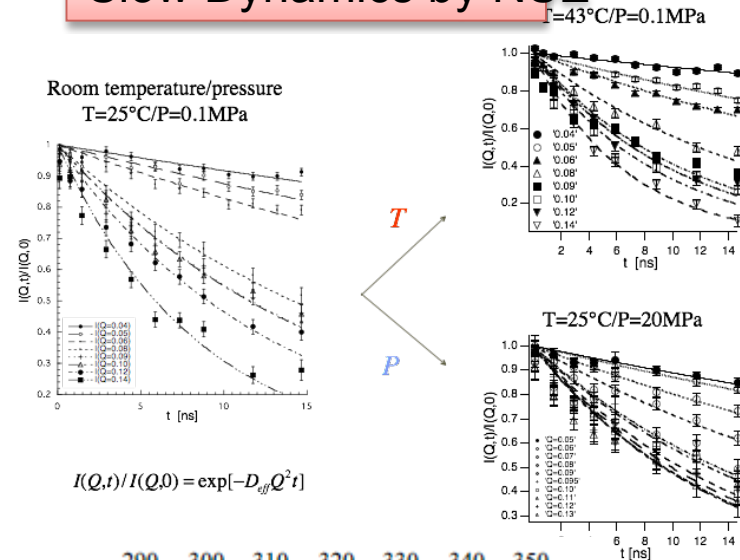
## Hierarchical Structure and Dynamics of Soft matter

T and P dependence of structure and dynamics of microemulsion

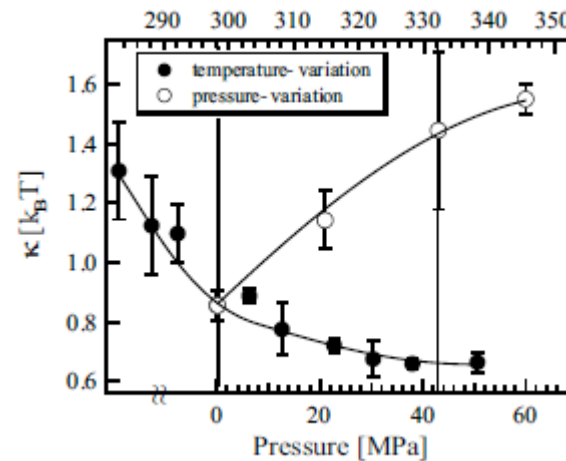
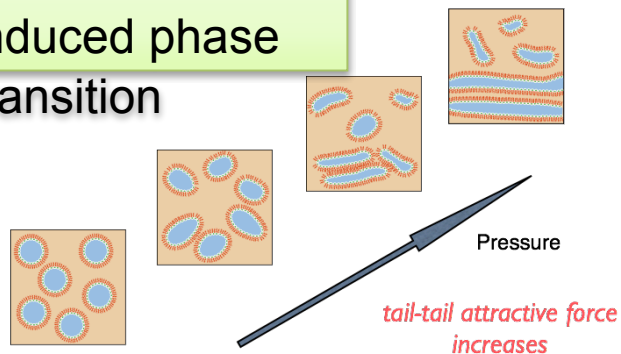
### Temperature induced phase transition



### Slow Dynamics by NSE



### Pressure-induced phase transition



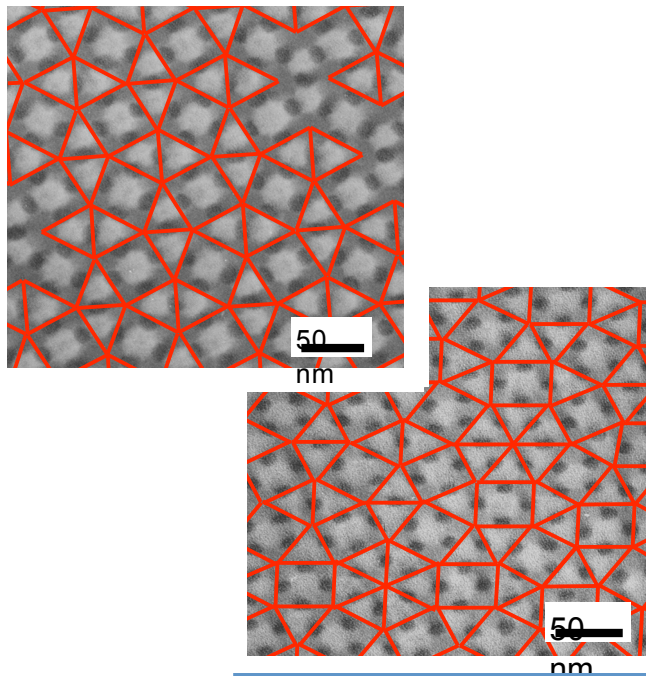
Bending modulus

# Professor Matsushita, Nagoya University

Future direction of soft matter science from material viewpoint

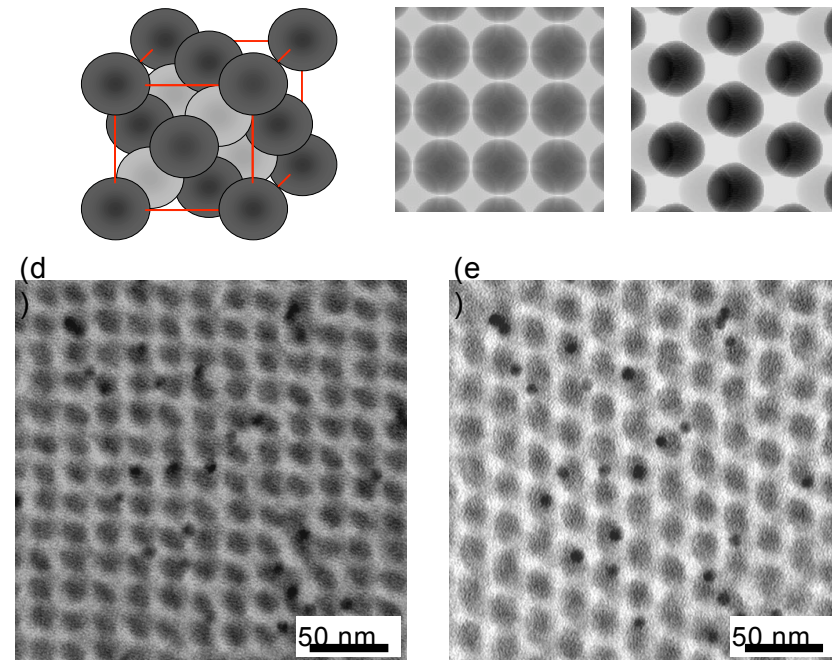
New Self-Assembled Structures of Polymer Systems, based on supermolecular chemistry

Archimedean Tiling



Quasicrystalline Tiling

Zinc Blende Structure

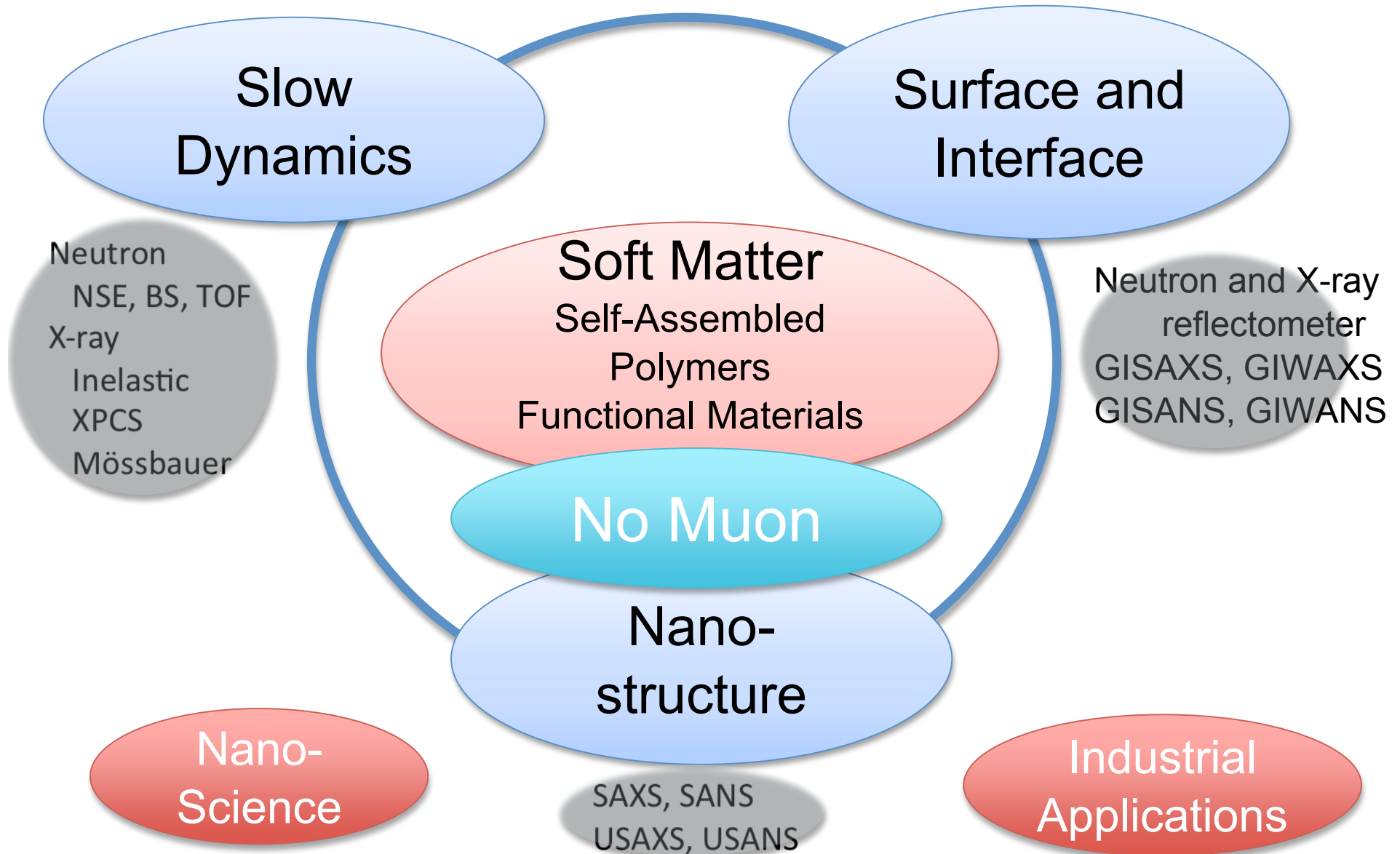


45 degree rotation

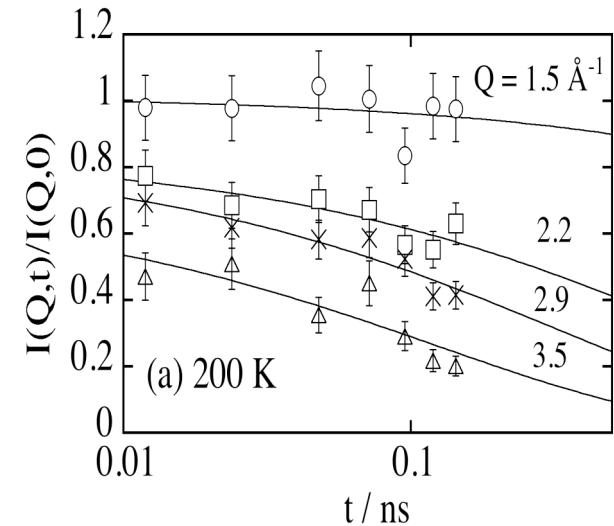
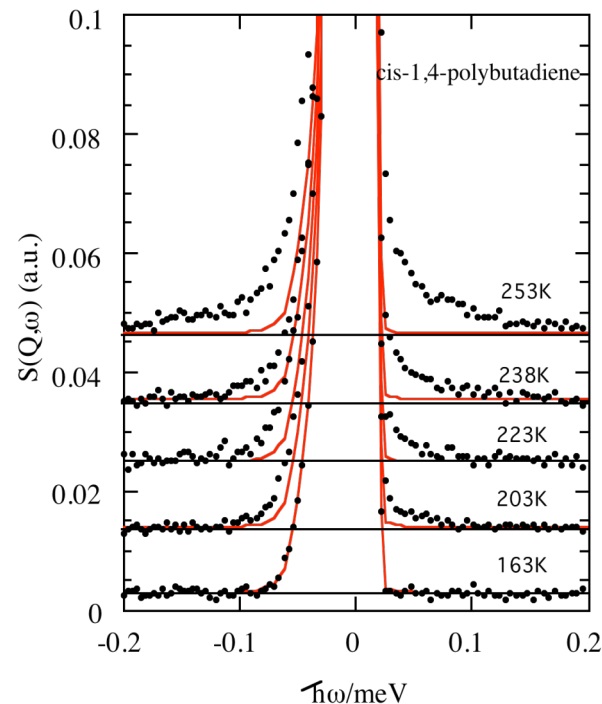
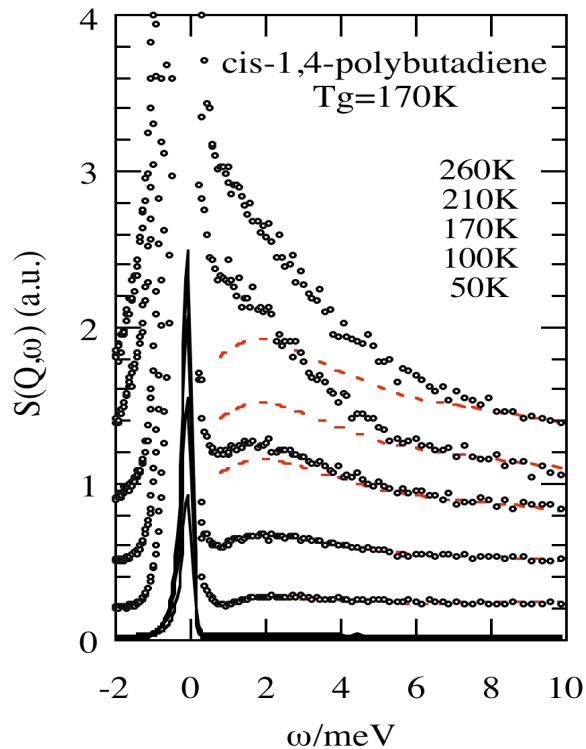
◆ # SAXS, SANS study

◆ Involving the supermolecular chemistry peop

# Future Research Directions in Soft Matter Science



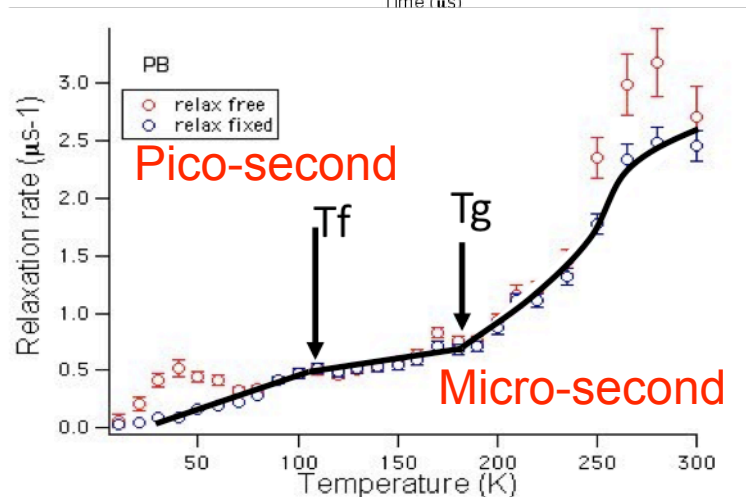
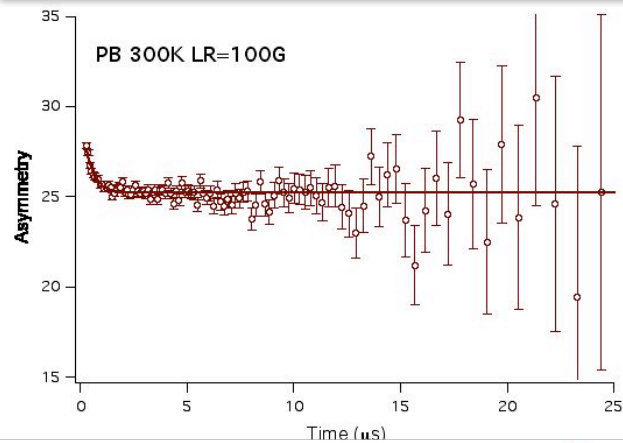
# Dynamics of Glass-forming Polymers by inelastic neutron scattering



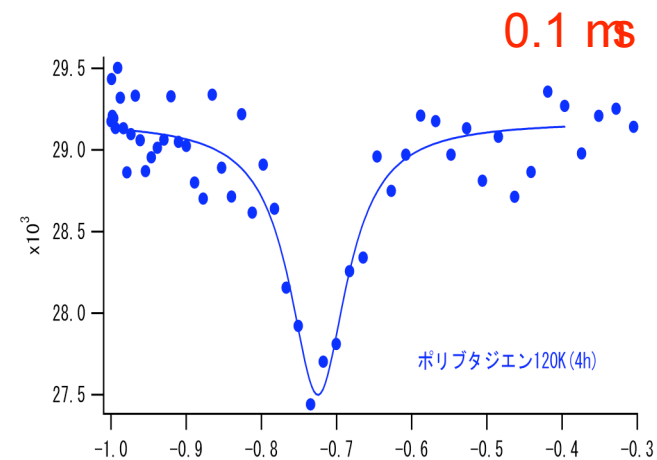
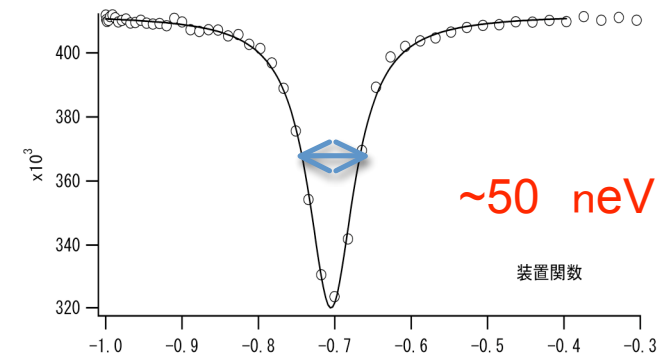
TOF, BS and NSE spectrometers  
Wide time scale from ps to ns

# Dynamics of Glass-forming Polymers by $\mu$ SR and Mössbauer absorption

## $\mu$ SR measurements on PB



## Mössbauer absorption of PB



Close interactions and collaborations among different probes are necessary