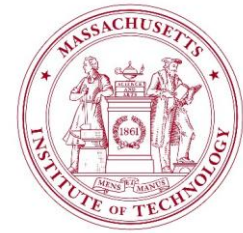


Microprobe Dynamics During Gelation of a Discotic Colloidal Clay

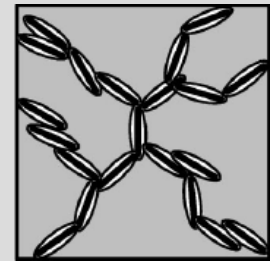
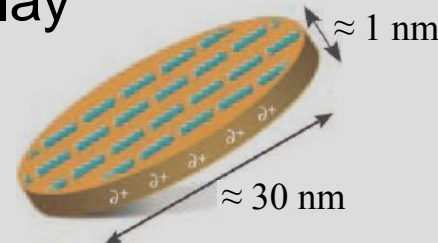


Patrick S. Doyle and Gareth H. McKinley, Massachusetts Institute of Technology

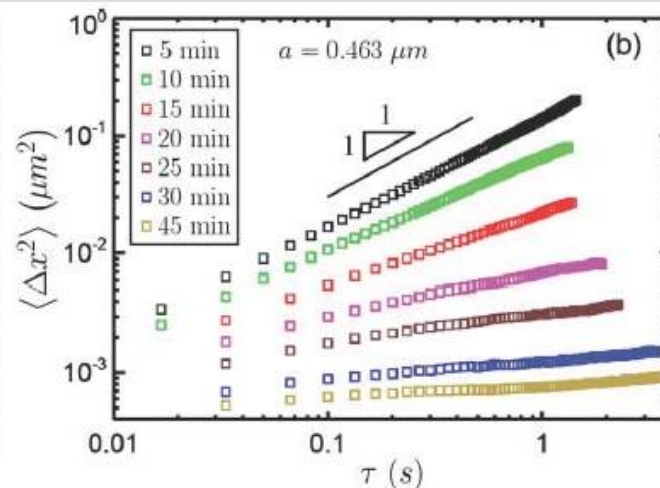
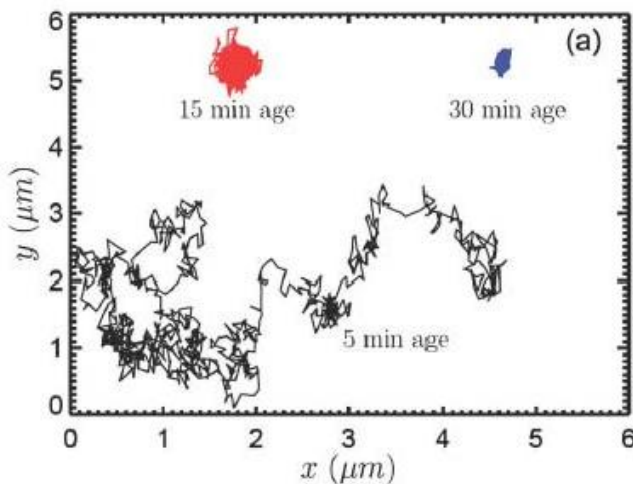
Goal: Measure the change of local rheological properties in an aging clay system using multiple particle tracking.

Fluid: Aqueous dispersion of Laponite[®] clay

- Aging, yielding, shear-thinning, thixotropy
- Synthetic rheological modifier in consumer products, paints, drilling fluids, etc.



©: Rockwood Additives Ltd



Particle tracking has allowed us to follow gelation of the clay over time and systematically study the effect of tracer probe size as related to apparent gelation time. This gives new insight into the length scales of structures which are forming in the gel as it ages.