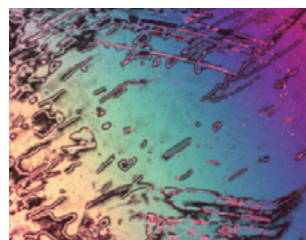


# ソフトマターの分子間相互作用伝搬の観測

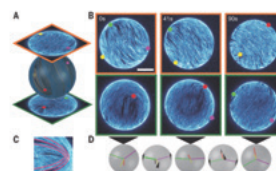
研究代表者 片山 建二 研究員



Liquid Crystal (LC)  
 • Display  
 • Bio-membrane, DNA, Protein  
 • Softness and Flexibility

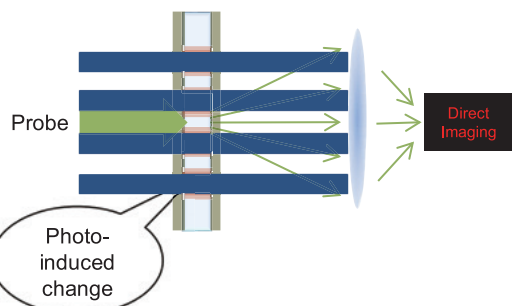
Molecular Interaction for a long distance  
 Promising platform for active matters

Topology and dynamics of active nematic vesicles

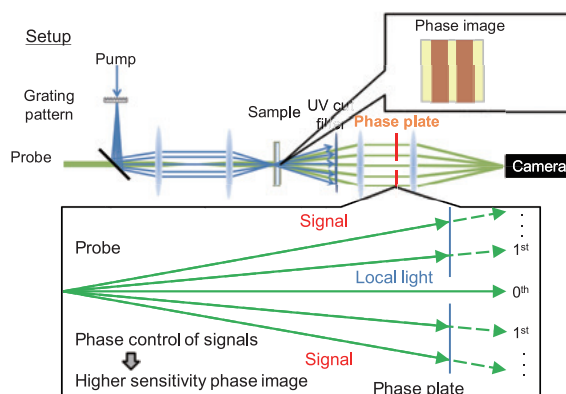


Keber, F. C., et al. *Science* 2014, **345**, 6201.

LP imaging

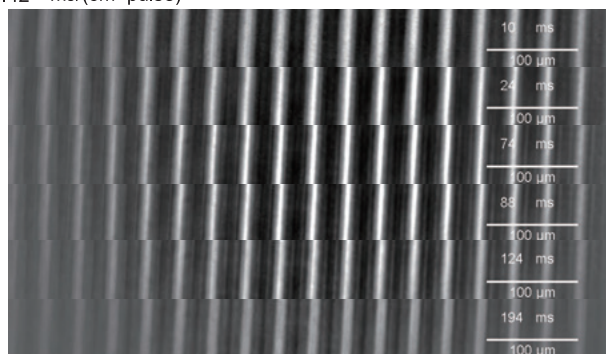


LP imaging — Higher sensitivity —

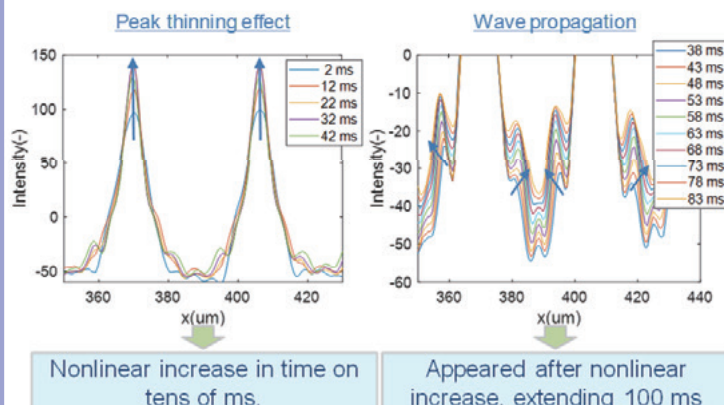


Lattice pattern pump imaging

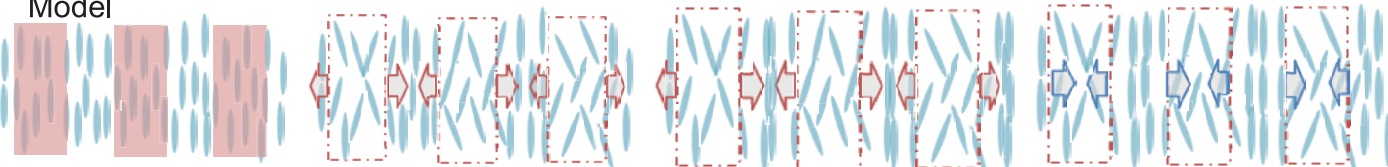
1.42 mJ/(cm<sup>2</sup> pulse)



Peak thinning and wave propagation



Model



Pressure wave induced due to acoustic impedance at LC/disordered interface

Compression induces the forced alignment  
 → Origin of the nonlinear index

Relax by bouncing back the shock-wave-like wave