

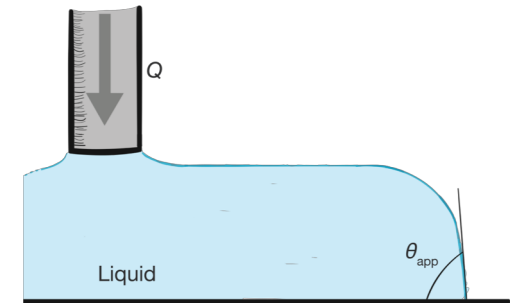
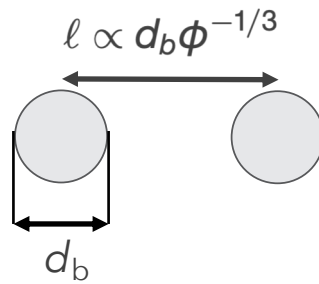
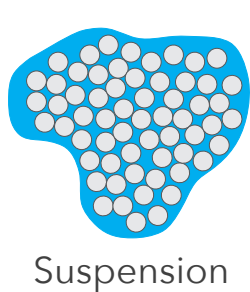
Effet de confinement lors de l'étalement de suspensions non-browniennes

Matthieu Roché¹

with Menghua Zhao¹, Alice Pelosse¹, Élisabeth Guazzelli^{1,2} and L. Limat¹

1. Matière et Systèmes Complexes, Paris

2. IUSTI, Marseille



Interplay between d_b and l and confinement close to the contact line?

Materials and methods

Polystyrene beads in PEG-ran-PPG

Bead diameter and volume fraction:

$$10 < d_b < 550 \mu\text{m}$$

$$0.2 < \phi < 0.5$$

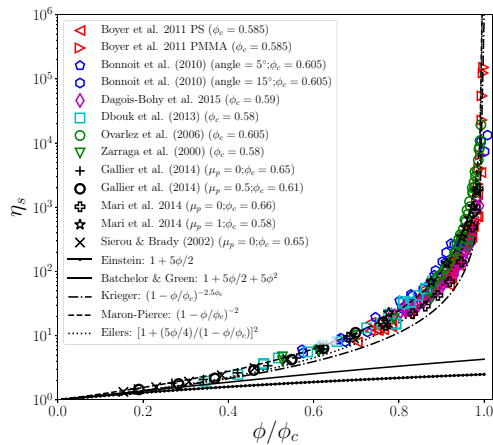
Viscosity of the suspending liquid

$$\eta = \text{cst} = 3600 \text{ mPa s}$$

at 20 °C

Isodensity

$$\rho_b = \rho_l \sim 1050 \text{ kg m}^{-3}$$



O. Pouliquen and E. Guazzelli, J. Fluid. Mech. 852, P1 (2018)

$$\eta_s = f(\phi, \phi_c; \dot{\gamma}, d_b)$$

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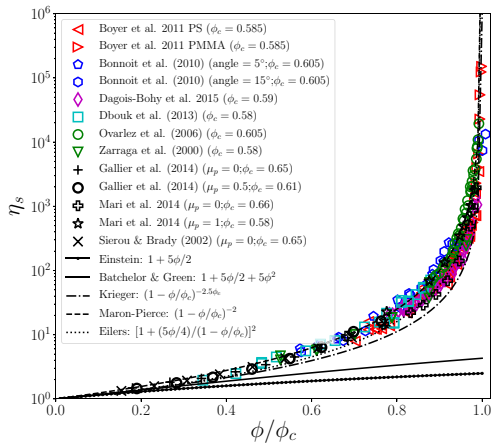
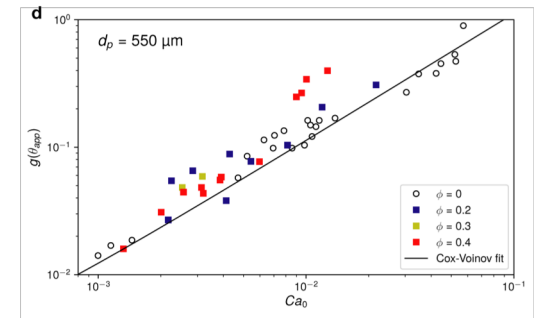
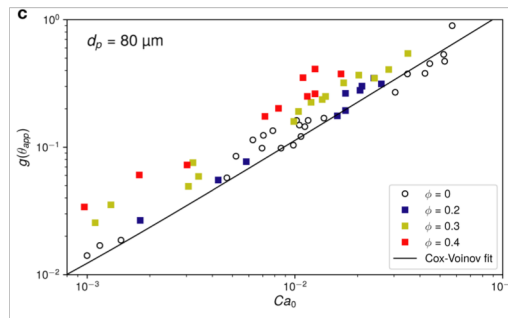
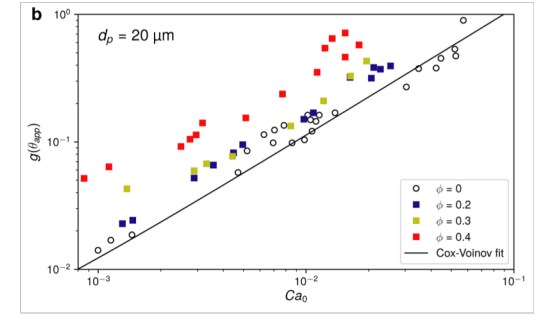
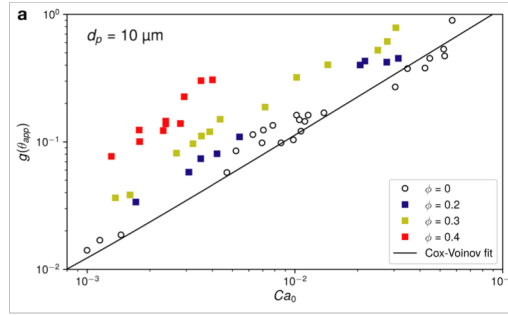
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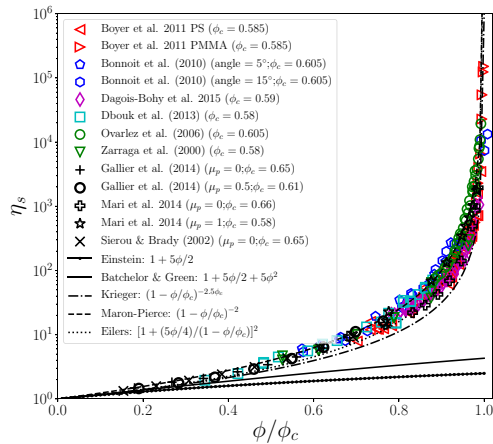
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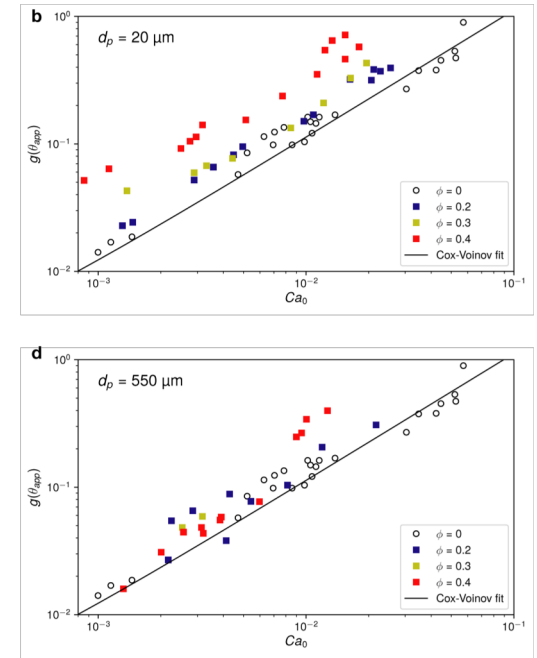
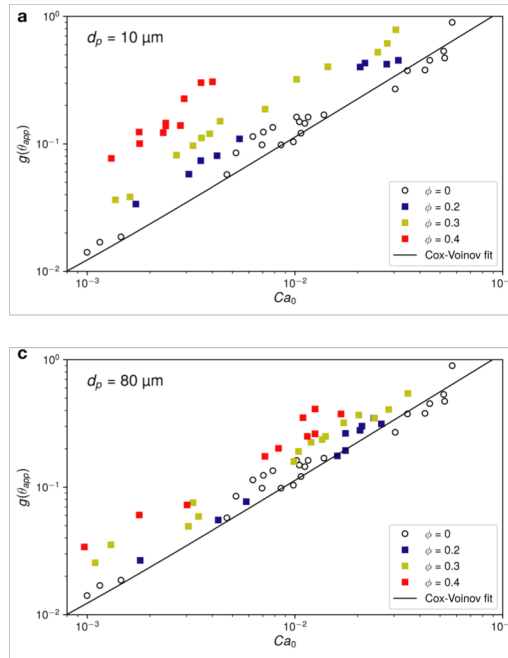
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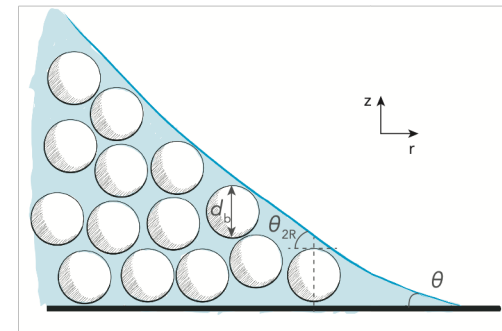
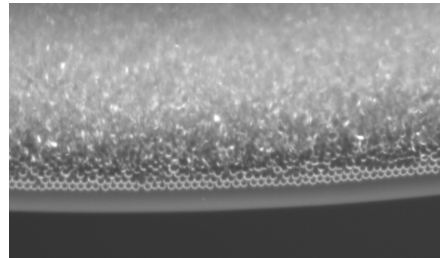
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Discussion - Model



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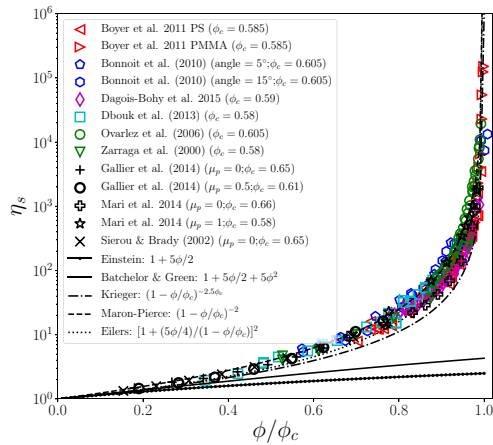
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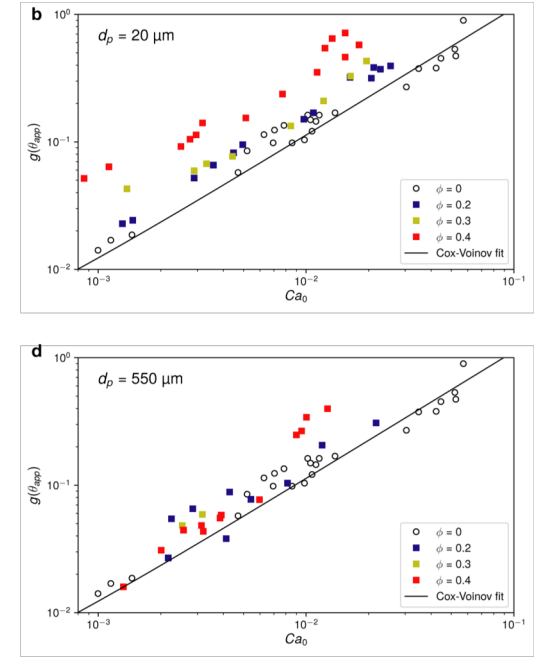
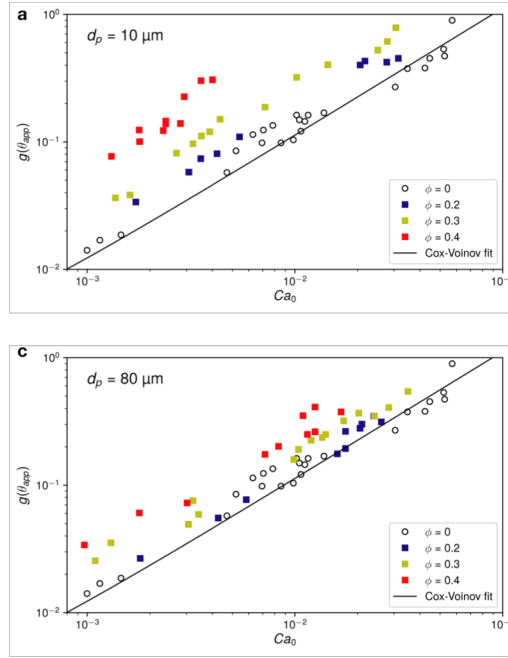
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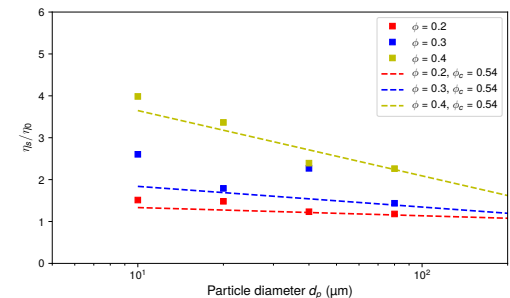
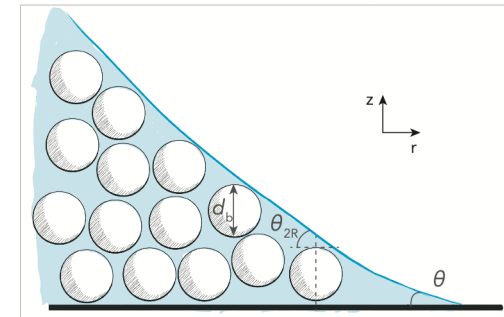
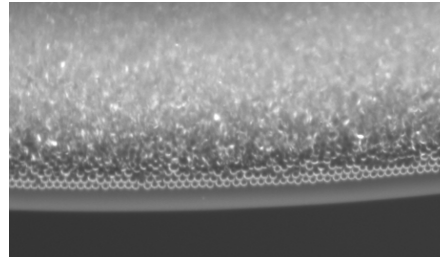
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$$\frac{\eta_s}{\eta_0} = \ln\left(\frac{h}{L}\right) + \frac{\eta_s(\phi) - \eta_0}{\eta_0} \ln\left(\frac{h}{d_p}\right)$$