

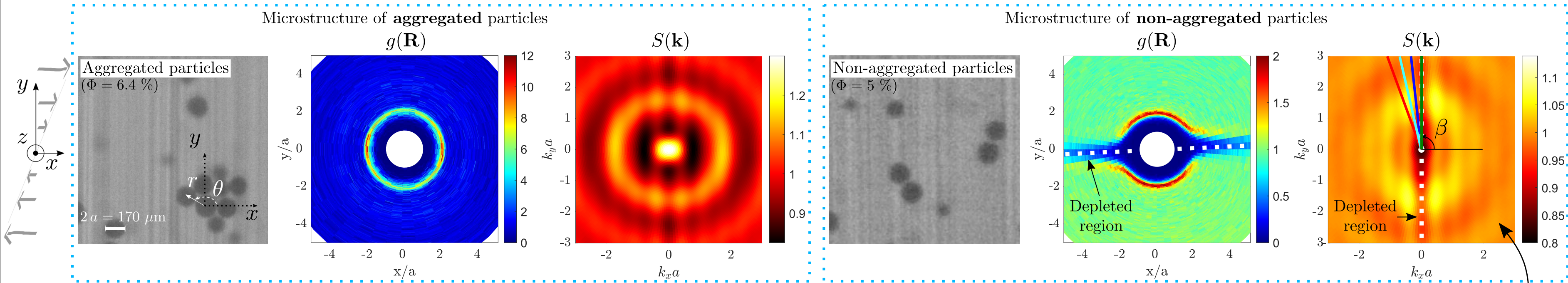
# Ultrasound for measuring the microstructure of dense suspensions

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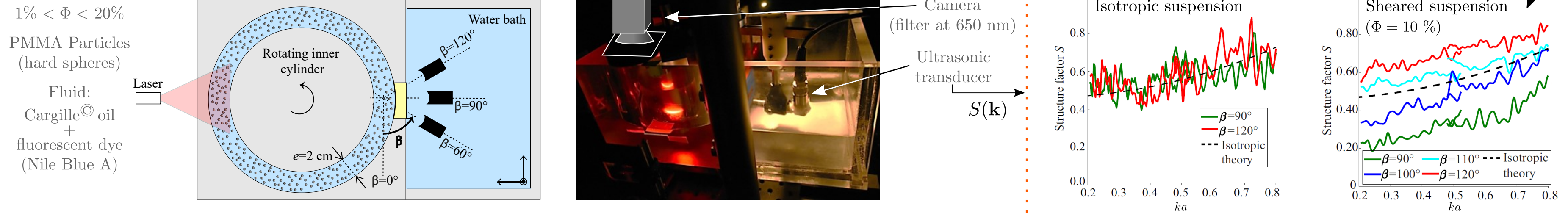
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Calculation of the structure factor,  $S(\mathbf{k})$ , from the optically measured 2D pair correlation function,  $g(\mathbf{R})$

$$S(\mathbf{k}) = 1 + n \int (g(\mathbf{R}) - 1) e^{2j\mathbf{k}\cdot\mathbf{R}} d^2\mathbf{R}$$



Validation of the ultrasonic technique: simultaneous **optical** [1] and **ultrasonic** [2] measurements of dense suspension microstructure



The shear-induced anisotropic microstructure within the suspension is detected by backscattering measurements

Références :

- Blanc *et al.*, 2013, J. Rheol. 1, 1(2013)
- Lombard *et al.*, J. Acoust. Soc. Am. 111, 2222 (2020)

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