Light scattering study of the structure of colloids under flow

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Concentrated colloidal suspensions exhibit strong structural anisotropy under flow. We have developed and characterized a light scattering under shear setup that allows to probe the static and dynamic structure factor of a suspension under shear at scales corresponding to the interparticle distance, close to the maximum of the structure factor. We report measurements of structure under flow of suspensions of effectively Hard Spheres colloidal particles, both in the liquid and in the glassy states. In particular, we discuss structure factors under flow obtained in the flow and in the vorticity planes, both in the extension and compression quadrants.