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**Soft Sphere Suspensions: Flow and Relaxation** MARCEL WORKAMP, JOSHUA A. DIJKSMAN, Physical Chemistry and Soft Matter, Wageningen University — We experimentally study the role of particle elasticity on the rheology of soft sphere suspensions. Experiments consist of custom designed particles with tuneable stiffness. These particles allow us to probe the role of elastic timescales, relaxation and anisotropy in a custom 3D printed shear cell. We find robust rheological features, such as a flow instability, that are not well captured by existing models for suspension flows. In addition, we find relaxation effects after shear even in the absence of shear or thermal fluctuations. We aim to integrate these findings in the emerging unified framework for structured fluids.

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