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Shear-induced demixing of glassy suspension TIES VAN DE LAAR, JORIS SPRAKEL, KARIN SCHROEN, Wageningen University — The ground state of a binary suspension composed of particles of incommensurate size is that of two demixed crystal phases. However this has never been experimentally observed, due to the prohibitively long time scales associated with diffusion in a glass. Here we show that enhancing particle mobility in a glass, by means of flow, can lead to this type of solid-solid demixing. We study this phenomenon at the scale of single particles by means of high speed confocal imaging of suspensions flowing through microfluidic channels. By systematically varying the applied pressures and volume fractions we intend to bridge the gap between classical shear-induced migration at dilute concentrations and deformation of glasses.

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