DY 9: Invited Talk Ralf Stannarius

Time: Monday 15:00–15:30 Location: H19

Invited Talk DY 9.1 Mon 15:00 H19

Granular matter composed of non-convex grains — •Ralf Stannarius — Otto-von-Guericke-Universität Magdeburg

The majority of granular matter studies so far has been devoted to hard, spherical grains. Recently, efforts have been increasingly focused on the investigation of shape-anisotropic and soft particle systems. We report experimental investigations of granular matter composed of non-convex particles. The random packing and orientational short-range order of flat crosses is studied in a two-dimensional geometry, and the influence of the aspect ratio (arm length divided by arm length) is analyzed. With spatial crosses (hexapods), we perform shear experiments and report an unexpected phenomenon in split-bottom containers, a 'reversed Weissenberg effect' of granular matter. Secondary flow leads to convection rolls normal to the shear direction.