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[Home](#) > Discrete Element Methods in STAR-CCM+

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Dense granular systems are very common natural phenomenon. Sand, pebbles, soil, seeds and powders are all examples of granular flows. Whilst the modeling of granular flows with Eulerian methodology had some success, there is still no known constitutive relation that governs dense granular flow based on grain-scale physics.

Recent architecture advances and access to CPU power enables to use granular flow modeling based on Discrete Element Model (DEM) both, for dry granular flows and for flows of particles coupled with traditional CFD solvers.

This presentation introduces the DEM simulation methodology and provides introduction to the DEM implementation in STAR-CCM+ as well as brief comparison of STAR-CCM+ feature set with competing products.

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