

# From ball to blob: multiple contact mechanics in soft particle packings

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## ABSTRACT

The typical example of a granular material is sand. Sand particles are hard, and deform very little under compression or shear. What happens if the constituents of a granular material become very soft? Particle deformations will of course occur. For initially spherical particles, this symmetry breaking will create a director for the particle, which may affect the local displacement and mechanical environment of the particle [1]. Such multi-contact shape changes are not typically implemented in numerical simulations but are relevant for granular materials [2] and emulsions [3]. We have however observed them in experiments. In this work I will discuss some consequences of these induced anisotropy effects and methods to implement them numerically.

## REFERENCES

- [1] Brodu et al, Nature Communications 6, 6361 (2015)
- [2] Brodu et al, Phys. Rev. E 91, 032201 (2015)
- [3] R. Höhler, S. Cohen-Addad, Soft Matter (2017) DOI: 10.1039/c6sm01567k