

DEM+
Code

Calculation of
global forces and
global torques
Acting on particles.

$$F = \sum_{i=1}^n f_i \Delta V_i$$
$$L = \sum_{i=1}^n r_i f_i \Delta V_i$$

CFD
Code

Particles velocity, their
position with respect to grid.

$$\frac{\partial \rho u_i^n}{\partial t} = RHS - \underbrace{\frac{\chi}{\eta} \rho (u_i^n - U_i^{on})^2}_{f_i}$$