

4.3.2 Granular column collapse

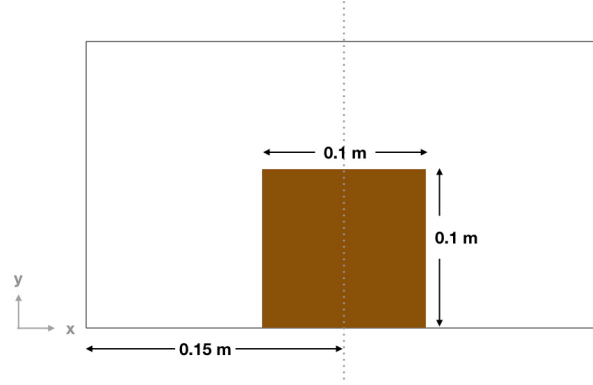


Figure 4.1: Geometry of the granular column at $t = 0$ s

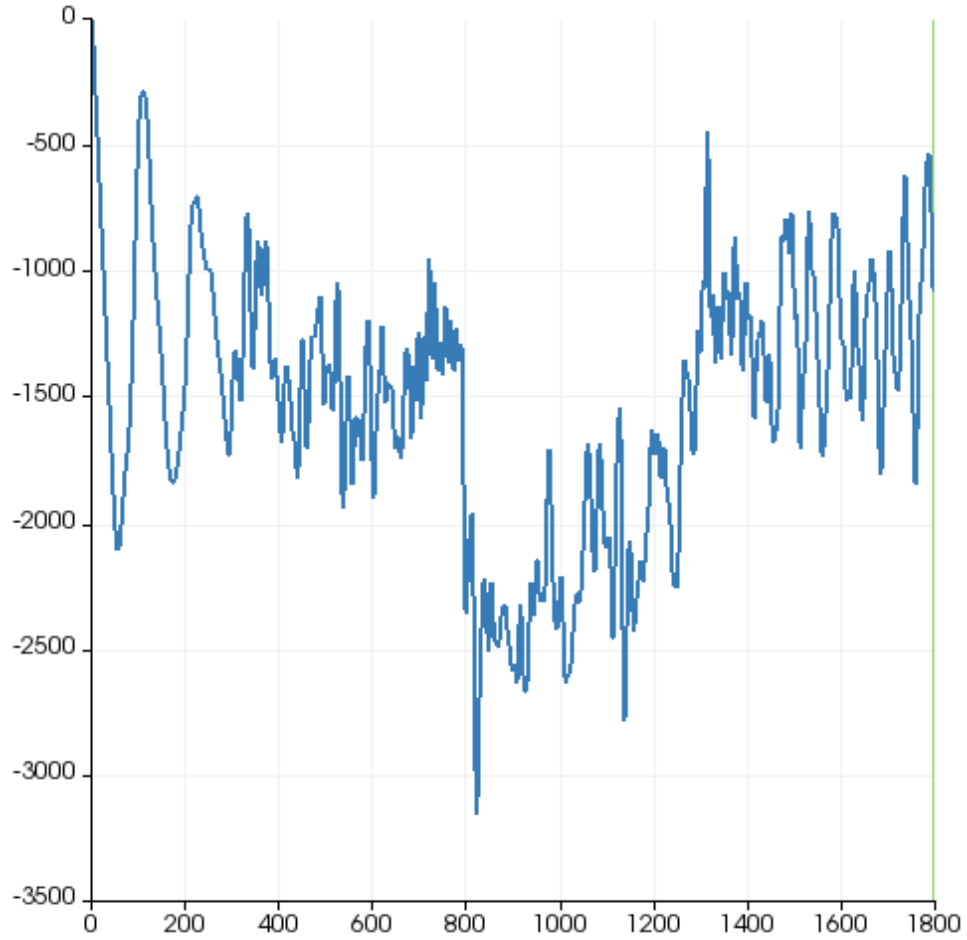


Figure 4.2: Vertical stress at the bottom-middle of the column

Table 4.1: Parameters of the MPM numerical model (plane strain) for granular column collapse test

Mesh	
x-spacing	0.005m
y-spacing	0.005m
Particles	
x-spacing	0.0025m
y-spacing	0.0025m
Particles per cell	4
Total number of particles	1600
Time	
total analysis time	0.2 s
dt	1×10^{-5} s
Material	
material model	Mohr Coulomb
Density (ρ)	1800 kg m ⁻³
E	1×10^6 N/m ⁻²
ν	0.2
Frictional angle (ϕ)	30
Cohesion (c)	0
Dilational angle (ψ)	0
Tensile strength (σ^t)	0
Boundary friction	0
Damping	0
gravity	-9.81 ms ⁻²