SURGE

Progress Meet

Modelling subsurface mine detonation

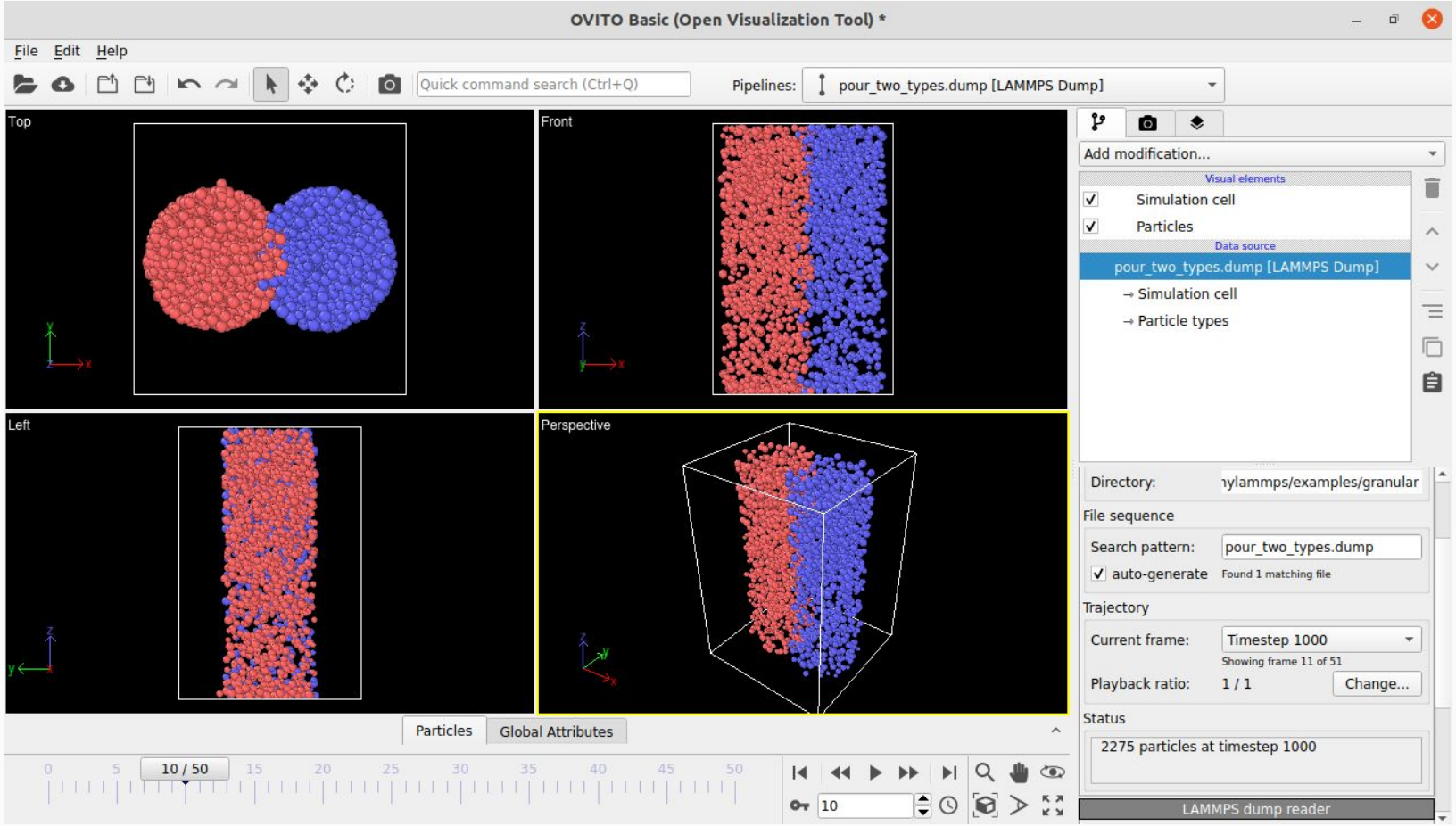
Progress with LAMMPS

-> Installed OVITO and ran the executable file; working fine and as expected

-> Basics of input script (lattice, atom style) from tutorial videos as suggested by Vikas sir

-> Went through LAMMPS documentation to understand basic commands

-> Uncommented the #dump command to generate **dump file** along with **log file** while running the **input script**

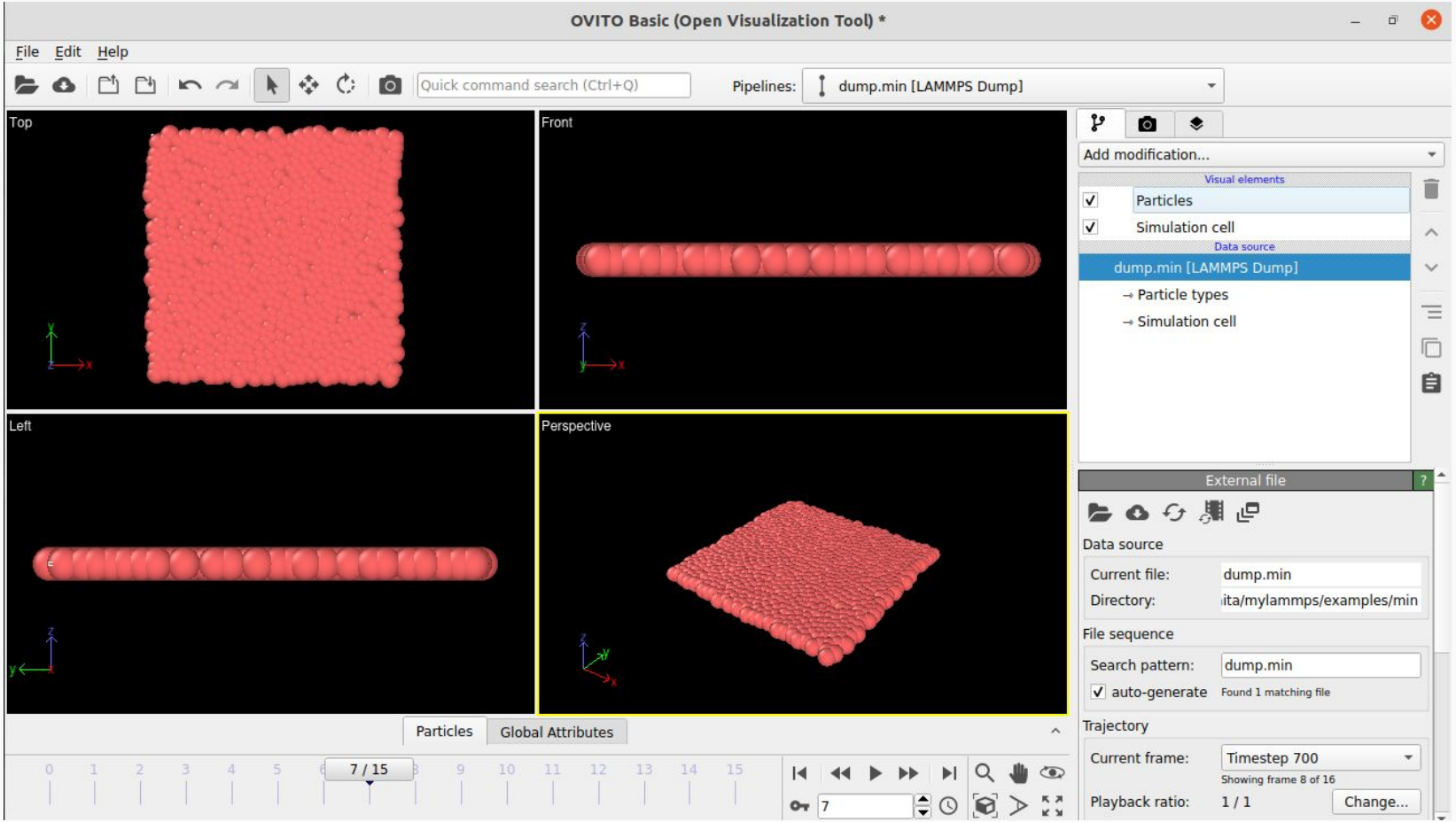


Simulation (in OVITO)

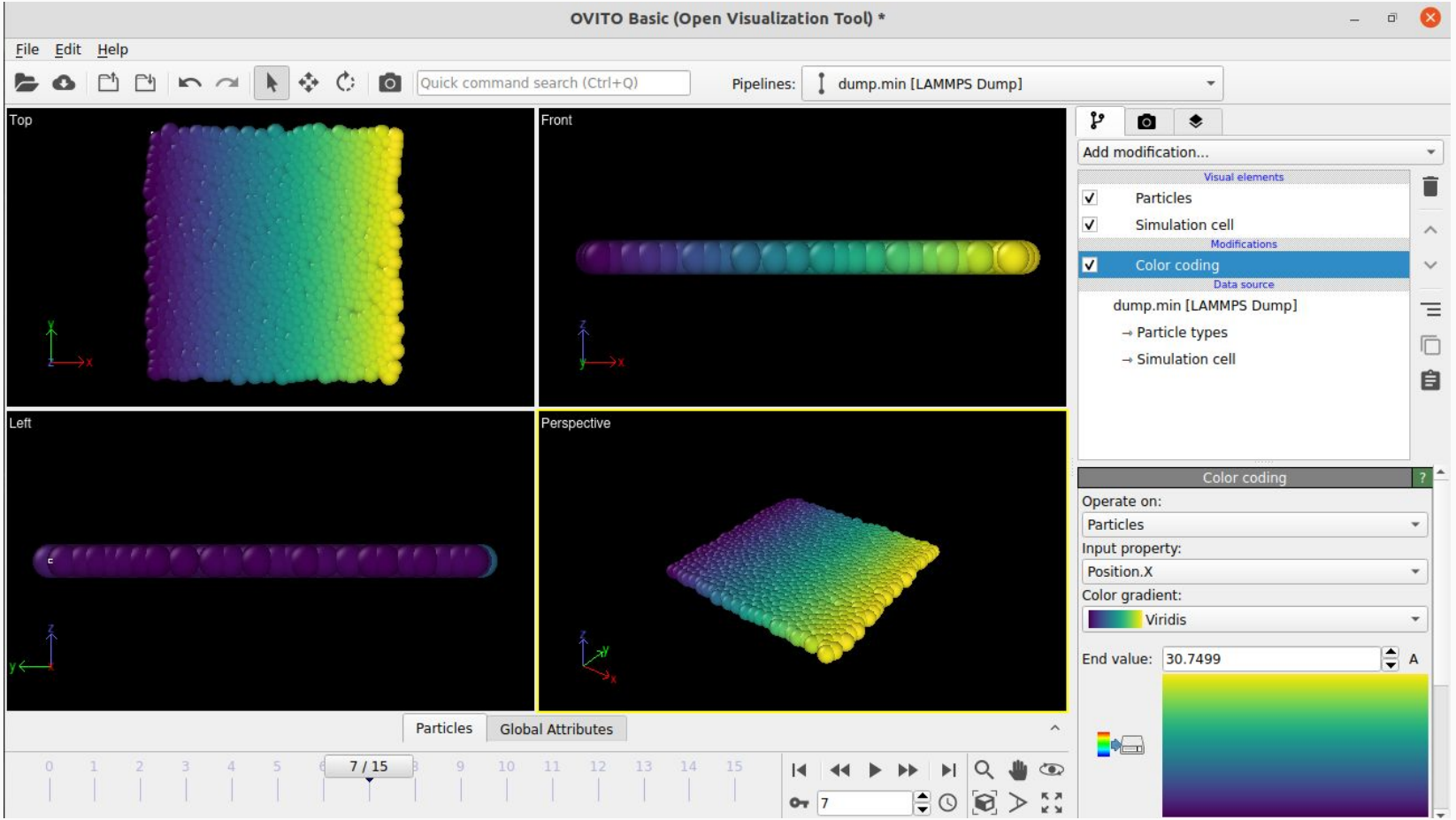
Progress with LAMMPS

-> Explored the **modification functionality** along with Parth

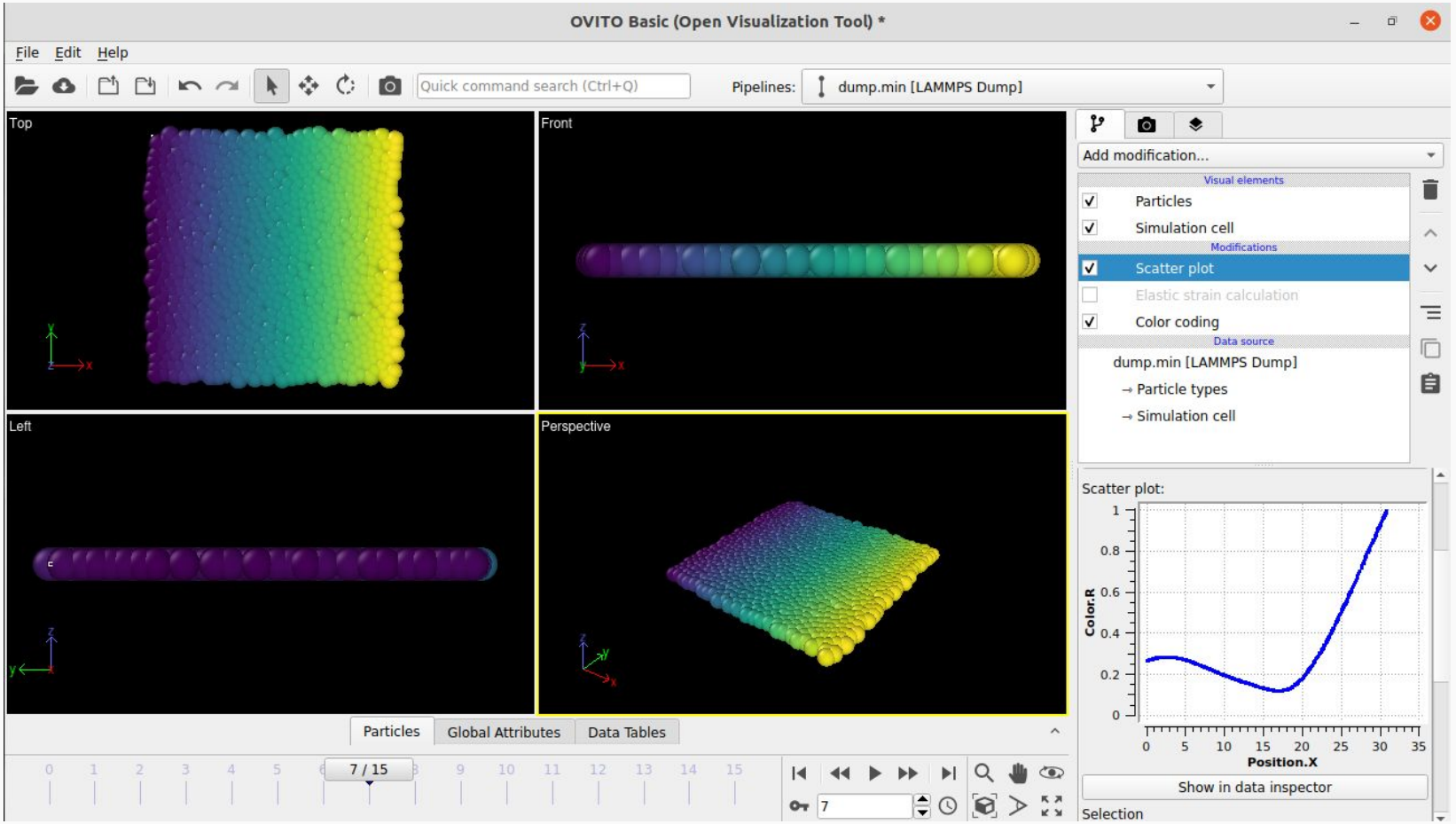
-> Used **color coding** and **scatter plot** modifications on /examples/min/ in OVITO



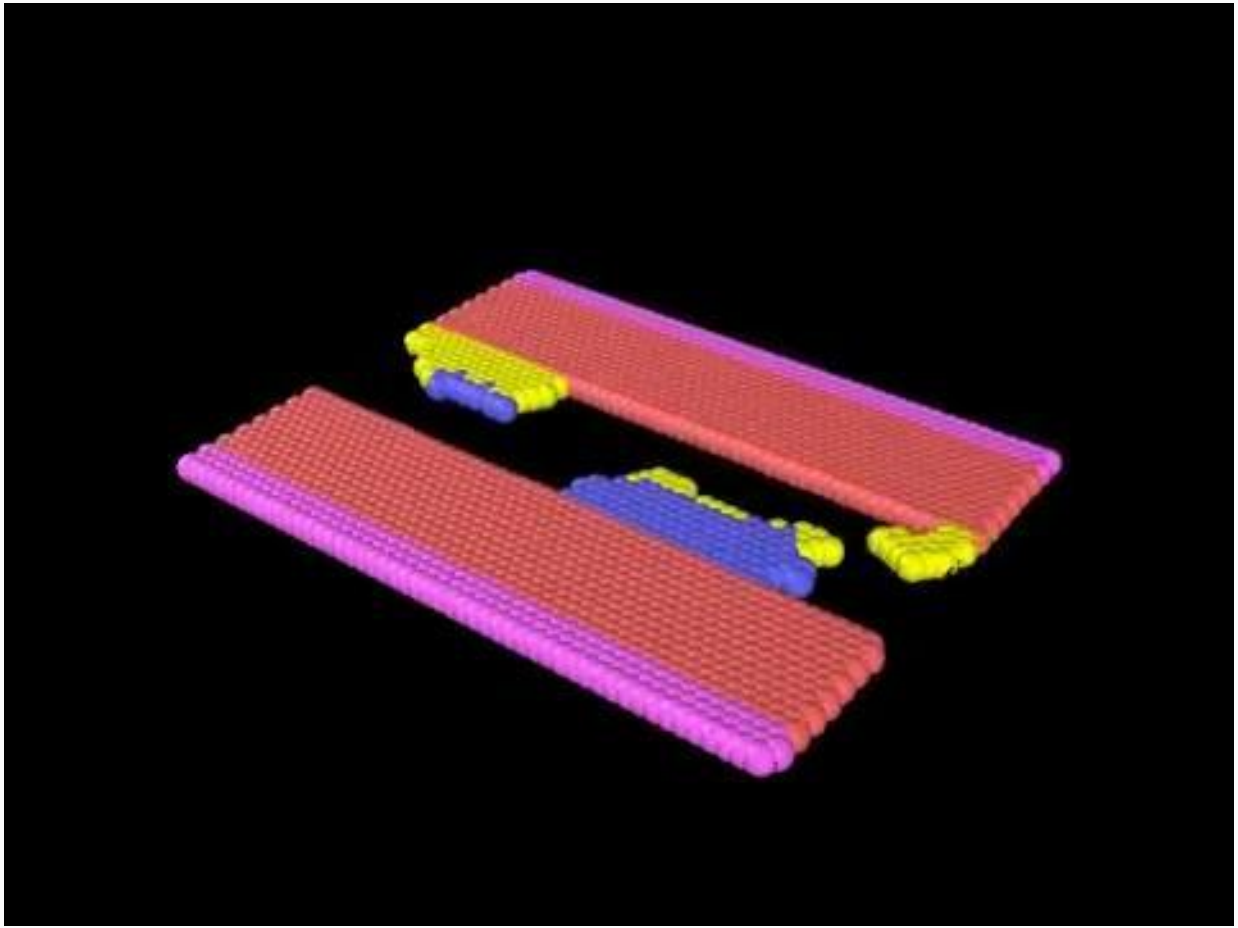
Simulation (in OVITO)



Modification (color mapping)



Modification (scatter plot)



Simulation (in OVITO) /examples/friction/

Target for next meet

-> Should I learn more of LAMMPS and OVITO or begin with some literature review for **“Modelling subsurface mine detonation”**

-> I had briefly gone through some papers in February (on flail analysis reports)

-> Start working on simulating the project idea using LAMMPS

Simulating Project Idea

-> **Phase 1** Replicate a granular bed (on the similar basis of what Aditya did)

-> **Phase 2** Hit it with a hammer or a ball

-> Here, we need to study the pressure variation in the granular bed due to the impact; however, in LAMMPS **we don't have pressure sensors**

-> **Phase 3** Locate a point/sphere where we want to find out if the mine will detonate or not; analyse the stress present there (recall ESO202 content)