

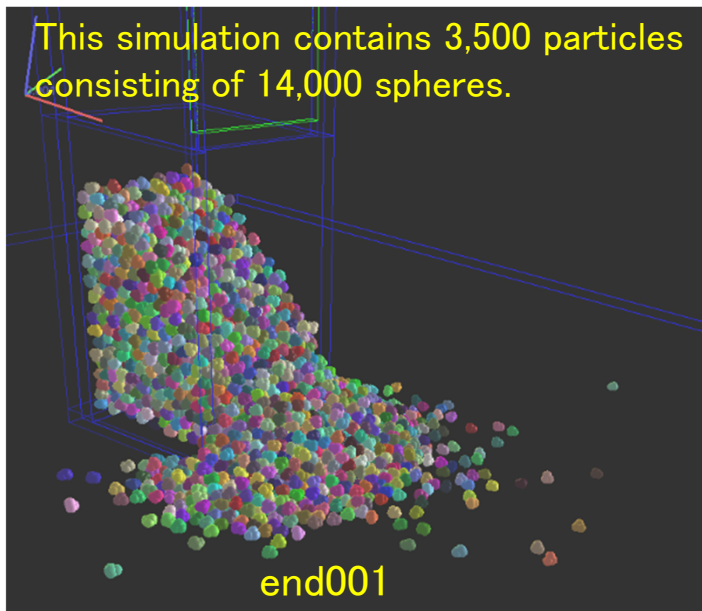
4. Submission Instructions: XYZ Data

Participants are required to submit the XYZ data representing **the particle configurations at both the start and the end of each simulation run**. The XYZ data should correspond to **individual spheres**. Since each particle consists of four spheres, a simulation with 3,535 particles will result in **a submission file containing 14,140 XYZ entries**.

Please note that this study requires at least 30 trials (50 trials recommended), so the number of submitted files must be at least 30 sets.

The following file naming convention should be used:

- start001.dat, start002.dat, ..., start030.dat, ... for the start of the simulation run (i.e., when the front panel is pulled up).
- end001.dat, end002.dat, ..., end030.dat, ... for the end of the simulation run.



save the position
vectors of
spheres in mm.

The format of **the position vectors in millimeters (mm)**
Please separate each coordinate value with a comma (CSV format).

```
id1, x1, y1, z1  
id2, x2, y2, z2  
id3, x3, y3, z3  
:  
:  
:  
:  
:  
:  
:  
:  
idn, xn, yn, zn
```

Please insert a carriage return
at the end of each line.

The coordinate values should be
represented in single or double
precision floating point format.

(n=14,140 if we use 3,535 particles)

end001.dat

The sphere ids should correspond between start001.dat and end001.dat.

5. Submission Instructions: Zip Archive

- Each participant is required to perform at least 30 simulation trials (50 recommended).
- For each trial, please generate a file named as follows:
start001.dat, start002.dat, ..., start030.dat, ...
end001.dat, end002.dat, ..., end030.dat, ...
- In addition to the .dat files, please prepare the Excel file (conf.xlsx) that summarizes the conditions and parameters used for the simulations.
- Place all these files into a single folder and compress it into a ZIP archive.
- The ZIP file should be named using your identifier or team name (e.g., TeamAlpha_trials.zip).
- Please submit the ZIP file via email to the designated email address no later than Sep, 30, 2026.

Please submit the zip archive to:

Dr. Shuji Moriguchi

International Research Institute of Disaster Science (IRIDeS), Tohoku University

Email: shuji.moriguchi.d6@tohoku.ac.jp

by the submission deadline: Sep, 30, 2026.

