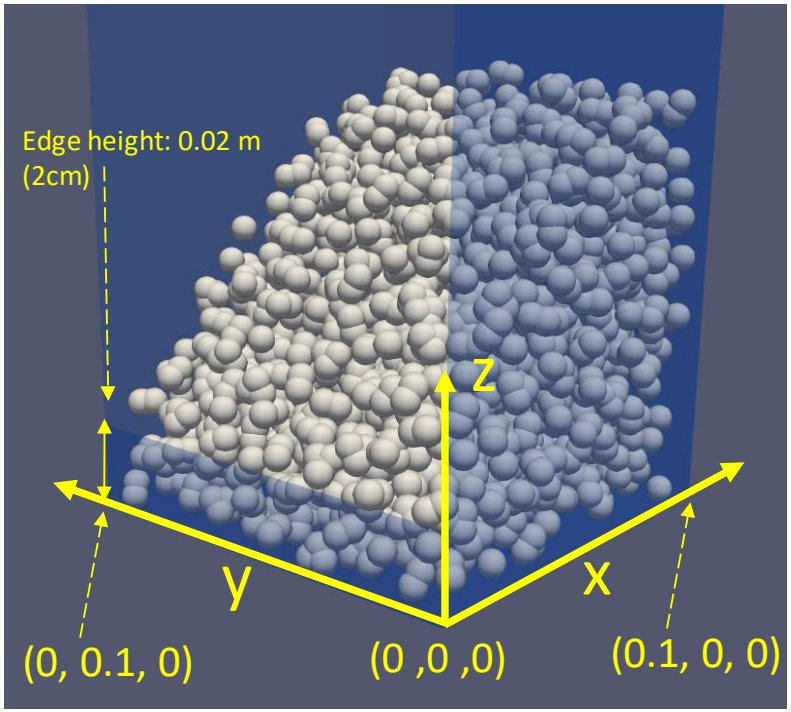
Instructions for DEM simulation settings and submitting file

1. Coordinate system

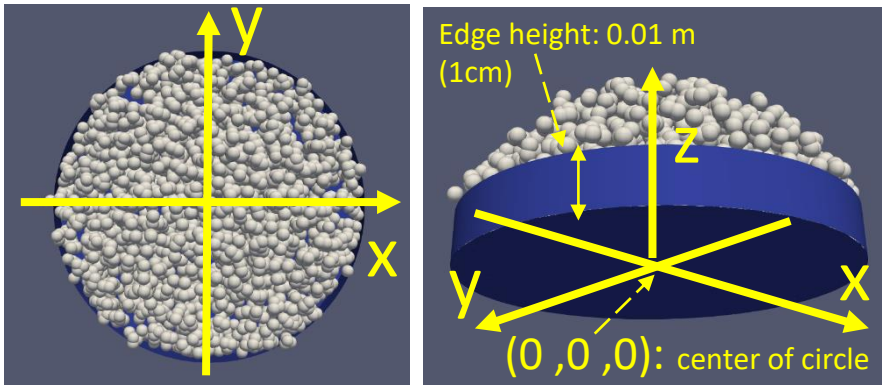
Please use the following coordinate systems in each simulation to estimate the angles of repose. Note that the coordinate unit is meters “m”.

Experimental device I



The x-y plane is the bottom plane of device I. Note that the planar wall which moves upwards is initially defined as: $x = 0$ and $z >= 0.02$.

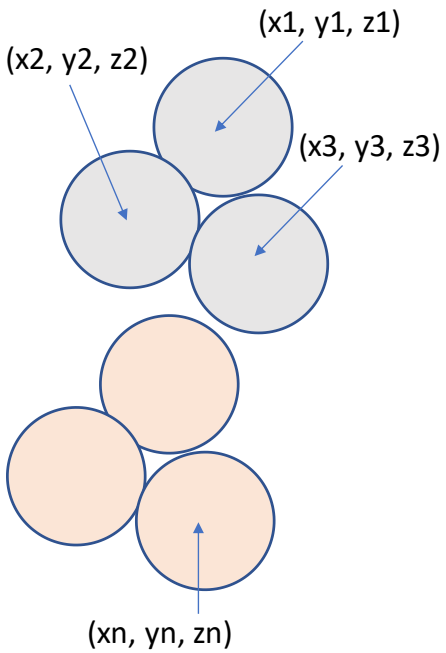
Experimental device II



The x-y plane corresponds to the bottom plane of the device with the origin (0,0,0) being at the center of the device. Note that the bottom surface is the region such that $x^2+y^2 <= (0.08)^2$.

The angles of repose will be estimated by the secretariat using the position vectors of all spheres submitted by participants. Note that the time when the repose arises should be determined by the participants themselves. The file format of the position vectors is detailed on the next page. Also, the details on file submission are summarized on the third and fourth pages of this document.

2. File format for the position vectors of all spheres



Spheres at the repose situation

The format of the position vectors

Please insert a space between the digits as the delimiter.

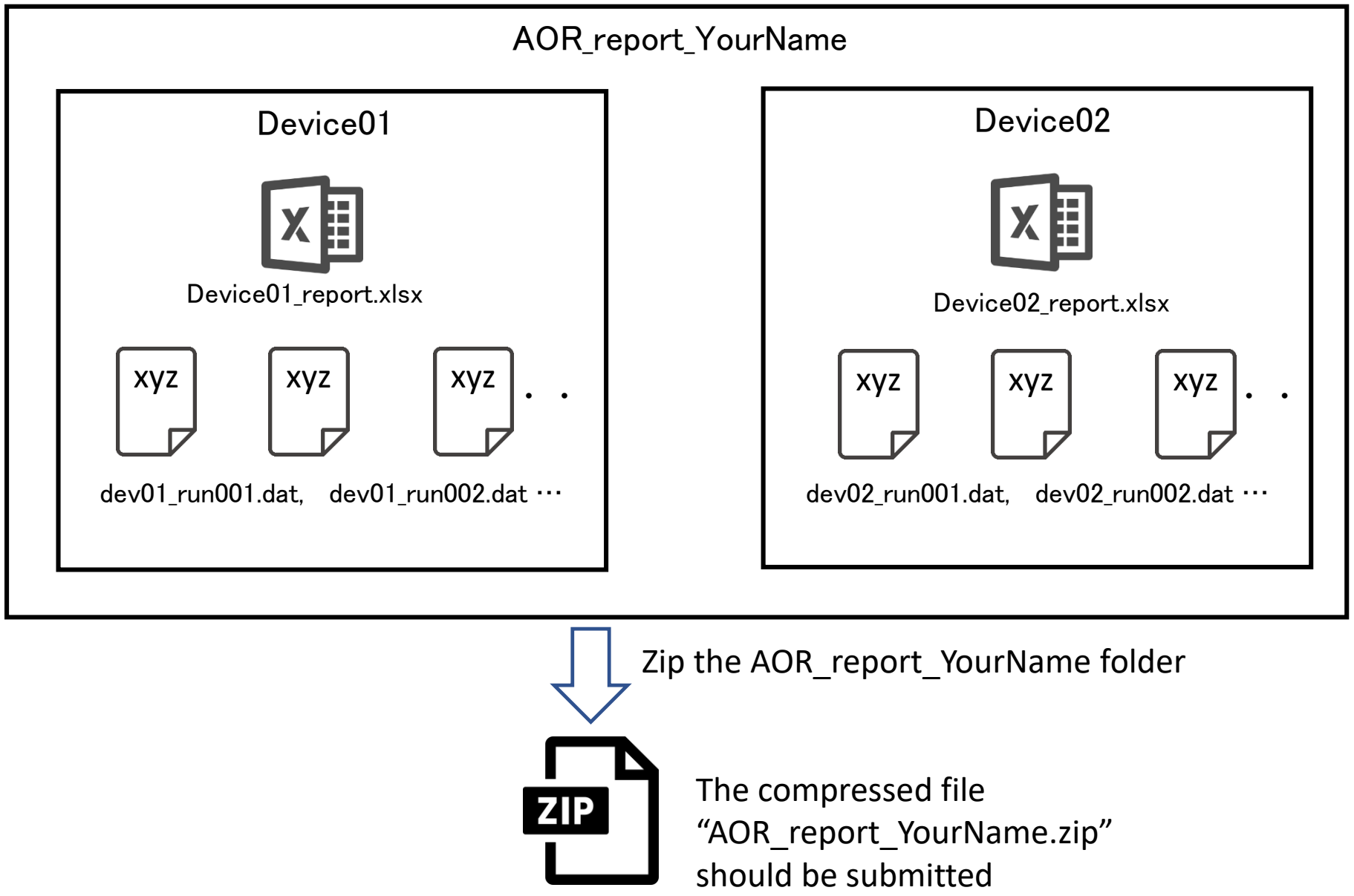
x1	y1	z1
x2	y2	z2
x3	y3	z3
.	.	.
.	.	.
.	.	.
xn	yn	zn

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

The precision of digits is double or single float.

If you have run multiple simulations for an experimental device, please submit the results for each run: “dev01_run001.dat”, “dev01_run002.dat”, and “dev01_run0XX” for the device I; “dev02_run001.dat”, “dev02_run002.dat”, and “dev02_run0YY.dat” for the device II.

3. Folder structure for submission



4. Submission destination

Please submit the zipped result file to the following address with your name and affiliation.

s_mori@irides.tohoku.ac.jp

Dr. Shuji Moriguchi (Associate Professor)
Tohoku University,
International Research Institute of Disaster Science

If you have questions and comments, please also send an e-mail to the following address.
s_mori@irides.tohoku.ac.jp