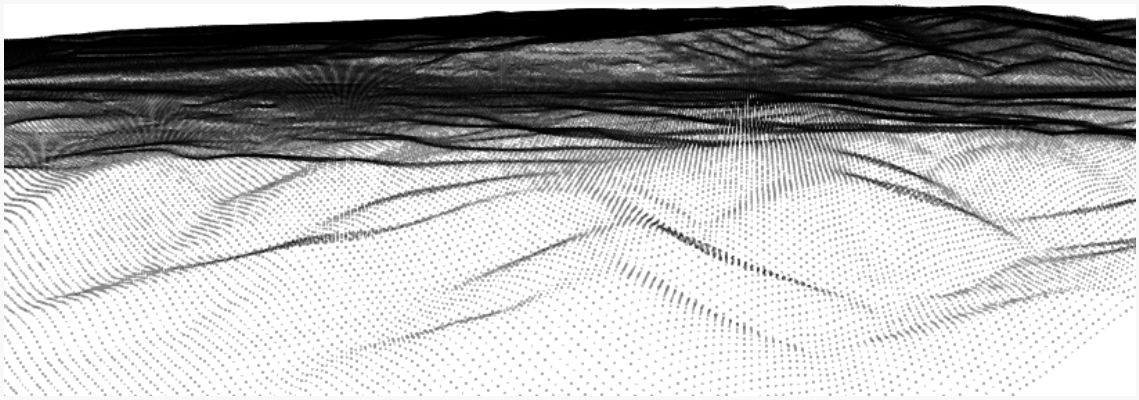
In this tutorial let us use `topIIvol_PreProc` to coarsen a point cloud cluster `./xyz/point-cloud-fine.xyz` which contains $(x \times y) = 500 \times 451 = 225500$ points. To coarsen, we use skipping 10 rows of points in x direction and skipping 10 rows of points y direction. We should roughly achieve $500/10 = 50$ points in x and $451/10 \approx 46$ points in y, such that a total number of points now reduce to $50 \times 46 = 2300$.

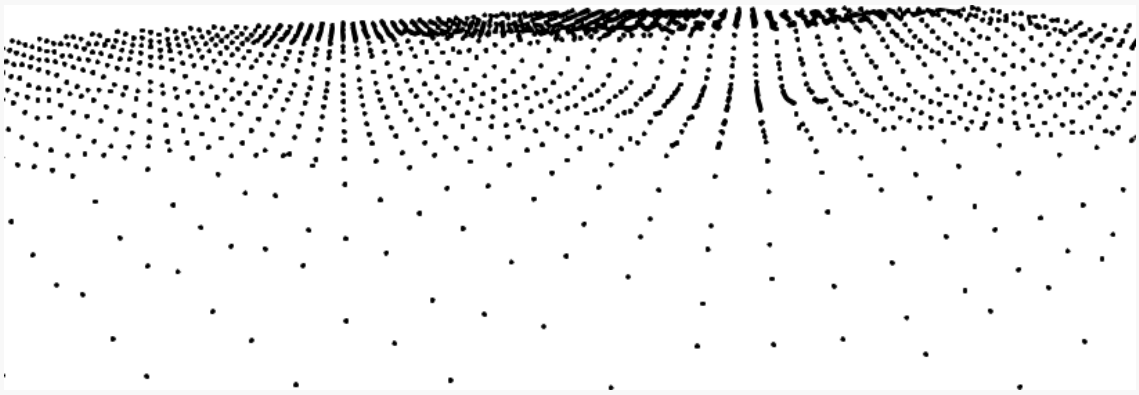


Point cloud with 225500 data points

To run this tutorial, run the following on terminal:

```
topIIvol_PreProc --xpoints 500 --ypoints 451 --xskip 10 --yskip 10 \
--in ./xyz/point-cloud-fine.xyz --out out-coarse.xyz
```

After successfully running `topIIvol_PreProc` there will be a coarsened point cloud `out-coarse.xyz` and an info file `<out-coarse.xyz>.info` that give the number of x an y points in the coarsened mesh cloud.



Coarse point cloud with 2300 data points

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