Additional parameters for the *r3.in.lidar* module are *n*, *sum*, *mean*, and *proportional_sum*. To classify points as ground, we used *v.in.pdal*:

```
v.in.pdal -j input=points.las output=ground
```

The parameter *-j* extracts only the ground points. To get points which are not ground, we used the same command, but with *-k* parameter to classify ground points and *class_filter=0* to extract only the points not classified as ground. To get points scanned by the Kinect scanner, we used *r.in.kinect* module with parameter *vector* to get the raw point cloud:

```
r.in.kinect vector=points numscan=1 zexag=3
```

We used points from one scan, the physical model was 3 times exaggerated, and we applied smoothing using *smooth_radius=0.009*. Additionally, we set parameters related to calibration of the particular scanning setup. Since the binning implemented in *r.in.lidar* requires the data to be in the LAS format, we needed to convert some of the data using the *v.out.lidar* module into the LAS format:

```
v.out.lidar input=points output=points.las
```

The data for the physical model were in their original scale, so we had to use unusually low scaling for their storage in the LAS format, namely we used parameter *las_xyscale=0.00001* and also *las_zscale=0.00001*.

In addition to processing, we did all 2D and 3D geospatial visualization in GRASS GIS.