Load Tracks

```
clear;
addpath('./../experiments');
%files = dir('./tracks/T*.csv');
tracks= loadTracks();
```

Plot Tracks

```
for i=1:length(tracks)
    figure(i);clf;hold on;grid on;
    plot(tracks(i).distance, tracks(i).elevation);
%     plot(extendedDistance, extendedElevation);
    xlabel('distance in m');
    ylabel('elevation in m');
    axis([0 tracks(i).distance(end) 0 80]);
    %axis([8090 8110 0 max(tracks(i).elevation)]);
    title(tracks(i).name);
    name = tracks(i).name;
    name = name(1:end-4);
    saveas(figure(i), ['./trackImages/' name '.jpg']);
    tracks(i).maxElevation = max(tracks(i).elevation);
    tracks(i).minElevation = min(tracks(i).elevation);
    tracks(i).elevationRange = tracks(i).maxElevation - ...
        tracks(i).minElevation;
    tracks(i).maxSlope = max(tracks(i).slope);
    tracks(i).minSlope = min(tracks(i).slope);
    tracks(i).trackLength = tracks(i).distance(end);
    disp(['>>>>>TRACK ' name '<<<<<<<']);
    disp(['Max Elevation: ' num2str(tracks(i).maxElevation)]);
    disp(['Min Elevation: ' num2str(tracks(i).minElevation)]);
    disp(['Range Elevation: ' num2str(tracks(i).elevationRange)]);
    disp(['Max Slope: ' num2str(tracks(i).maxSlope)]);
    disp(['Min Slope: ' num2str(tracks(i).minSlope)]);
    disp(['Track Length: ' num2str(tracks(i).trackLength)]);
end
```

```
>>>>>TRACK Ex1<<<<<<<
Max Elevation: 35.31
Min Elevation: 24.9
Range Elevation: 10.41
Max Slope: 0.03225
Min Slope: -0.055263
Track Length: 16400
>>>>>TRACK Ex2<<<<<<<
Max Elevation: 75.345
Min Elevation: 26.445
Range Elevation: 48.9
Max Slope: 0.29714
Min Slope: -0.30071
Track Length: 12600
>>>>>TRACK Ex3<<<<<<<
Max Elevation: 40.14
```

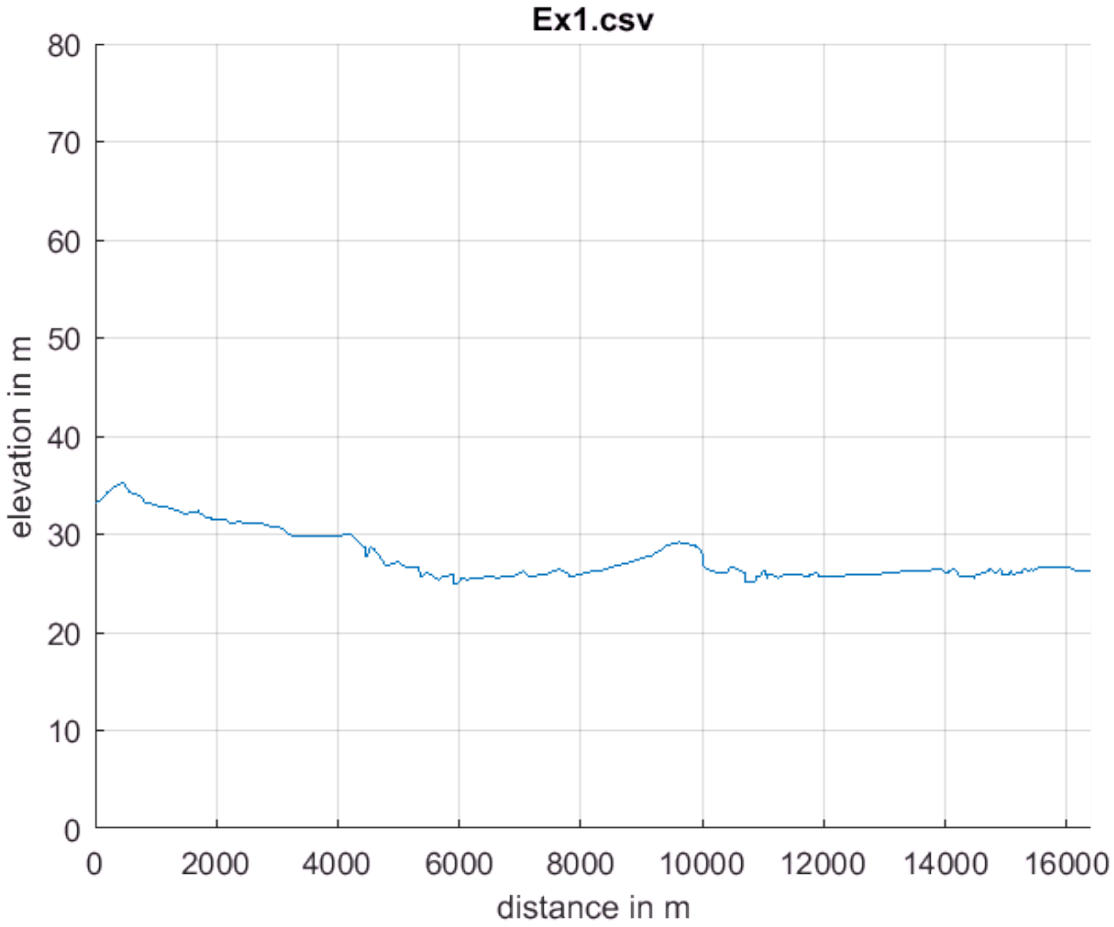
Min Elevation: 24.85
Range Elevation: 15.29
Max Slope: 0.078824
Min Slope: -0.12588
Track Length: 13000
>>>>>TRACK T1<<<<<<<
Max Elevation: 35.31
Min Elevation: 25.3
Range Elevation: 10.01
Max Slope: 0.038056
Min Slope: -0.058333
Track Length: 8100
>>>>>TRACK T10<<<<<<<
Max Elevation: 35.31
Min Elevation: 22.955
Range Elevation: 12.355
Max Slope: 0.089167
Min Slope: -0.071389
Track Length: 9600
>>>>>TRACK T11<<<<<<<
Max Elevation: 33.415
Min Elevation: 22.9519
Range Elevation: 10.4631
Max Slope: 0.046538
Min Slope: -0.058462
Track Length: 5900
>>>>>TRACK T12<<<<<<<
Max Elevation: 35.31
Min Elevation: 22.955
Range Elevation: 12.355
Max Slope: 0.071389
Min Slope: -0.089167
Track Length: 9600
>>>>>TRACK T13<<<<<<<
Max Elevation: 33.415
Min Elevation: 22.91
Range Elevation: 10.505
Max Slope: 0.058462
Min Slope: -0.043214
Track Length: 6000
>>>>>TRACK T14<<<<<<<
Max Elevation: 33.415
Min Elevation: 22.91
Range Elevation: 10.505
Max Slope: 0.051786
Min Slope: -0.043214
Track Length: 6000
>>>>>TRACK T15<<<<<<<
Max Elevation: 35.31
Min Elevation: 24.9
Range Elevation: 10.41
Max Slope: 0.02225
Min Slope: -0.0525

Track Length: 10400
>>>>>TRACK T16<<<<<<<
Max Elevation: 40.14
Min Elevation: 28.135
Range Elevation: 12.005
Max Slope: 0.078824
Min Slope: -0.041176
Track Length: 7000
>>>>>TRACK T17<<<<<<<
Max Elevation: 35.31
Min Elevation: 24.9
Range Elevation: 10.41
Max Slope: 0.0525
Min Slope: -0.02225
Track Length: 10400
>>>>>TRACK T18<<<<<<<
Max Elevation: 75.345
Min Elevation: 28.135
Range Elevation: 47.21
Max Slope: 0.12139
Min Slope: -0.23111
Track Length: 6900
>>>>>TRACK T19<<<<<<<
Max Elevation: 40.14
Min Elevation: 28.135
Range Elevation: 12.005
Max Slope: 0.039412
Min Slope: -0.090294
Track Length: 6900
>>>>>TRACK T2<<<<<<<
Max Elevation: 40.14
Min Elevation: 25.4109
Range Elevation: 14.7291
Max Slope: 0.085278
Min Slope: -0.16889
Track Length: 5400
>>>>>TRACK T20<<<<<<<
Max Elevation: 33.415
Min Elevation: 26.505
Range Elevation: 6.91
Max Slope: 0.03119
Min Slope: -0.03119
Track Length: 9100
>>>>>TRACK T21<<<<<<<
Max Elevation: 35.31
Min Elevation: 26.145
Range Elevation: 9.165
Max Slope: 0.061765
Min Slope: -0.061765
Track Length: 10500
>>>>>TRACK T22<<<<<<<
Max Elevation: 35.31
Min Elevation: 28.135

Range Elevation: 7.175
Max Slope: 0.036842
Min Slope: -0.036842
Track Length: 9300
>>>>>TRACK T23<<<<<<<
Max Elevation: 33.415
Min Elevation: 26.595
Range Elevation: 6.82
Max Slope: 0.10125
Min Slope: -0.10125
Track Length: 10100
>>>>>TRACK T24<<<<<<<
Max Elevation: 33.415
Min Elevation: 26.595
Range Elevation: 6.82
Max Slope: 0.10658
Min Slope: -0.10658
Track Length: 9400
>>>>>TRACK T25<<<<<<<
Max Elevation: 33.415
Min Elevation: 25.2
Range Elevation: 8.215
Max Slope: 0.118
Min Slope: -0.11531
Track Length: 8000
>>>>>TRACK T26<<<<<<<
Max Elevation: 33.415
Min Elevation: 25.2
Range Elevation: 8.215
Max Slope: 0.065357
Min Slope: -0.087143
Track Length: 7300
>>>>>TRACK T27<<<<<<<
Max Elevation: 33.415
Min Elevation: 25.2
Range Elevation: 8.215
Max Slope: 0.11531
Min Slope: -0.11063
Track Length: 8000
>>>>>TRACK T28<<<<<<<
Max Elevation: 33.415
Min Elevation: 25.2
Range Elevation: 8.215
Max Slope: 0.081333
Min Slope: -0.058
Track Length: 7300
>>>>>TRACK T29<<<<<<<
Max Elevation: 33.415
Min Elevation: 24.7
Range Elevation: 8.715
Max Slope: 0.057188
Min Slope: -0.071765
Track Length: 9800

>>>>>TRACK T3<<<<<<<
Max Elevation: 35.31
Min Elevation: 25.3
Range Elevation: 10.01
Max Slope: 0.027778
Min Slope: -0.064444
Track Length: 5400
>>>>>TRACK T30<<<<<<<
Max Elevation: 33.415
Min Elevation: 24.85
Range Elevation: 8.565
Max Slope: 0.055
Min Slope: -0.085
Track Length: 9000
>>>>>TRACK T31<<<<<<<
Max Elevation: 33.415
Min Elevation: 24.45
Range Elevation: 8.965
Max Slope: 0.058438
Min Slope: -0.090313
Track Length: 9100
>>>>>TRACK T32<<<<<<<
Max Elevation: 33.415
Min Elevation: 24.7
Range Elevation: 8.715
Max Slope: 0.071765
Min Slope: -0.054375
Track Length: 9800
>>>>>TRACK T33<<<<<<<
Max Elevation: 33.415
Min Elevation: 24.85
Range Elevation: 8.565
Max Slope: 0.085
Min Slope: -0.055
Track Length: 8900
>>>>>TRACK T34<<<<<<<
Max Elevation: 33.415
Min Elevation: 24.45
Range Elevation: 8.965
Max Slope: 0.090313
Min Slope: -0.058438
Track Length: 9000
>>>>>TRACK T35<<<<<<<
Max Elevation: 40.14
Min Elevation: 24.85
Range Elevation: 15.29
Max Slope: 0.078824
Min Slope: -0.12588
Track Length: 13000
>>>>>TRACK T4<<<<<<<
Max Elevation: 35.31
Min Elevation: 25.3
Range Elevation: 10.01

Max Slope: 0.058333
Min Slope: -0.038056
Track Length: 8100
>>>>>TRACK T5<<<<<<<
Max Elevation: 40.14
Min Elevation: 25.35
Range Elevation: 14.79
Max Slope: 0.16889
Min Slope: -0.085278
Track Length: 5500
>>>>>TRACK T6<<<<<<<
Max Elevation: 35.31
Min Elevation: 25.35
Range Elevation: 9.96
Max Slope: 0.152
Min Slope: -0.025
Track Length: 5700
>>>>>TRACK T7<<<<<<<
Max Elevation: 36.8
Min Elevation: 31.075
Range Elevation: 5.725
Max Slope: 0.056429
Min Slope: -0.056429
Track Length: 7300
>>>>>TRACK T8<<<<<<<
Max Elevation: 37.05
Min Elevation: 31.77
Range Elevation: 5.28
Max Slope: 0.030435
Min Slope: -0.031818
Track Length: 6000
>>>>>TRACK T9<<<<<<<
Max Elevation: 37.05
Min Elevation: 31.77
Range Elevation: 5.28
Max Slope: 0.035
Min Slope: -0.035
Track Length: 6300


Ex1.csv
elevation in m
distance in m
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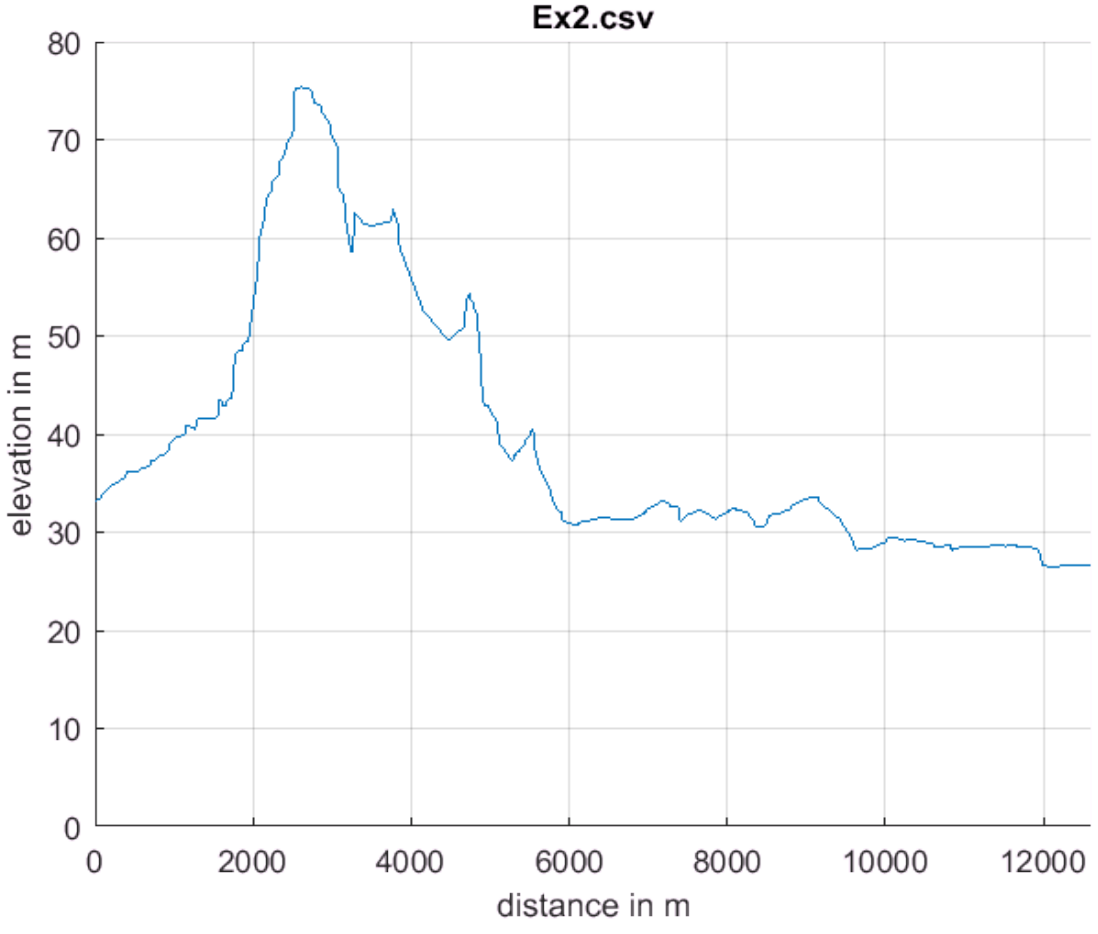
Ex2.csv
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distance in m
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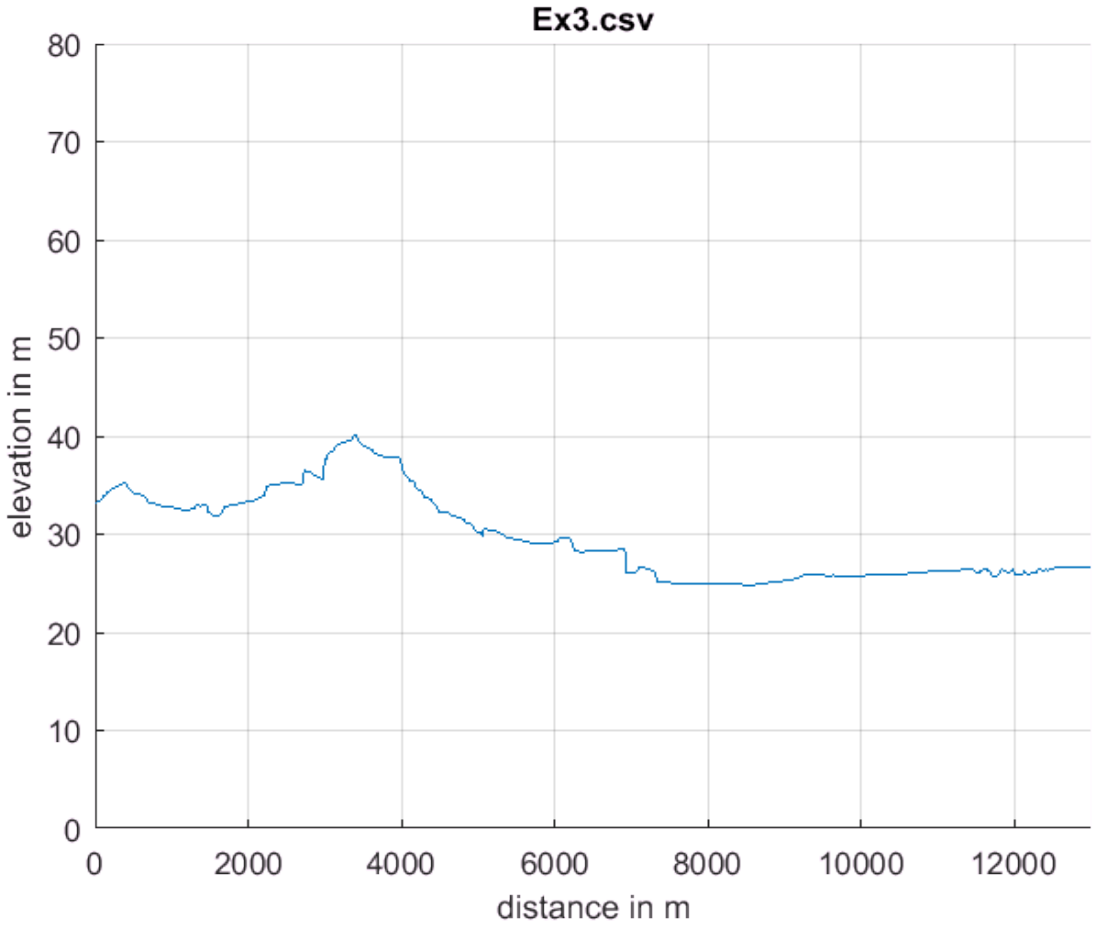
12000


Ex3.csv
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distance in m
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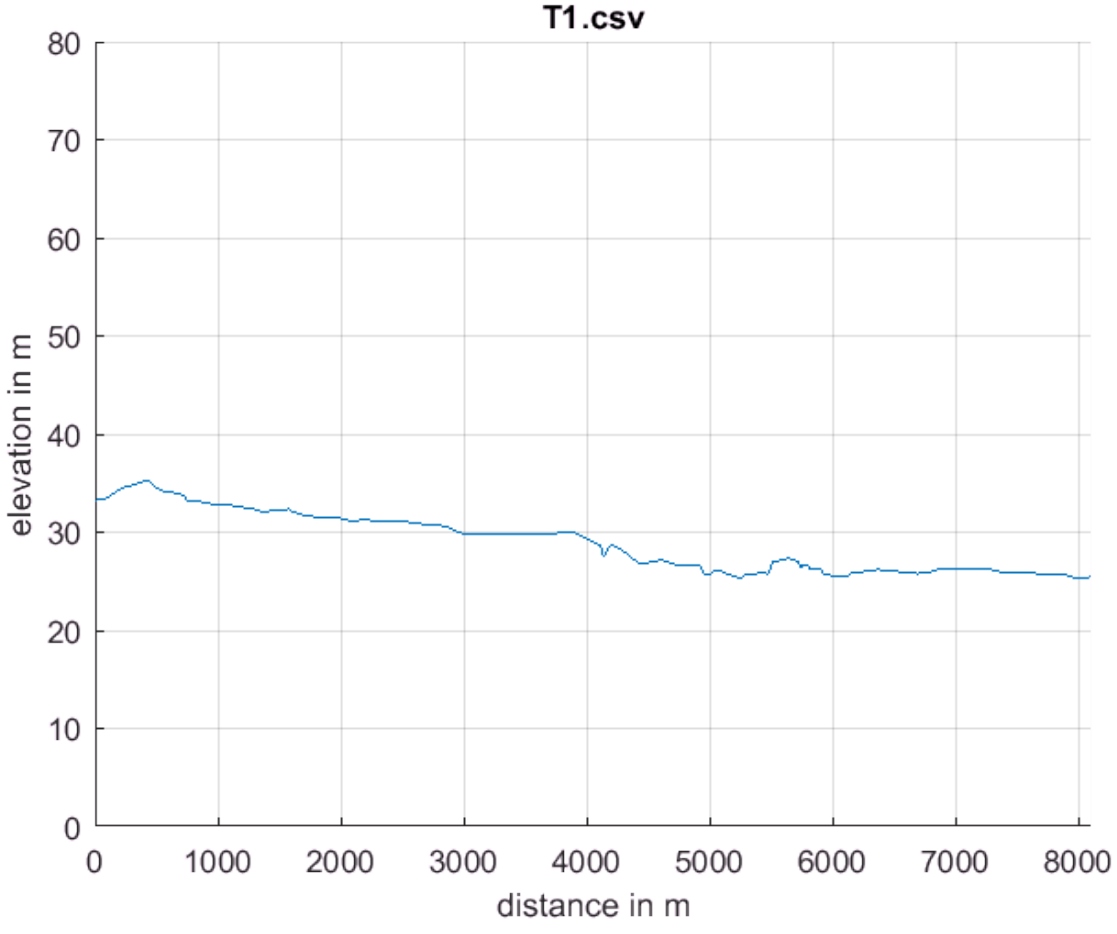
12000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elevation in m
distance in m
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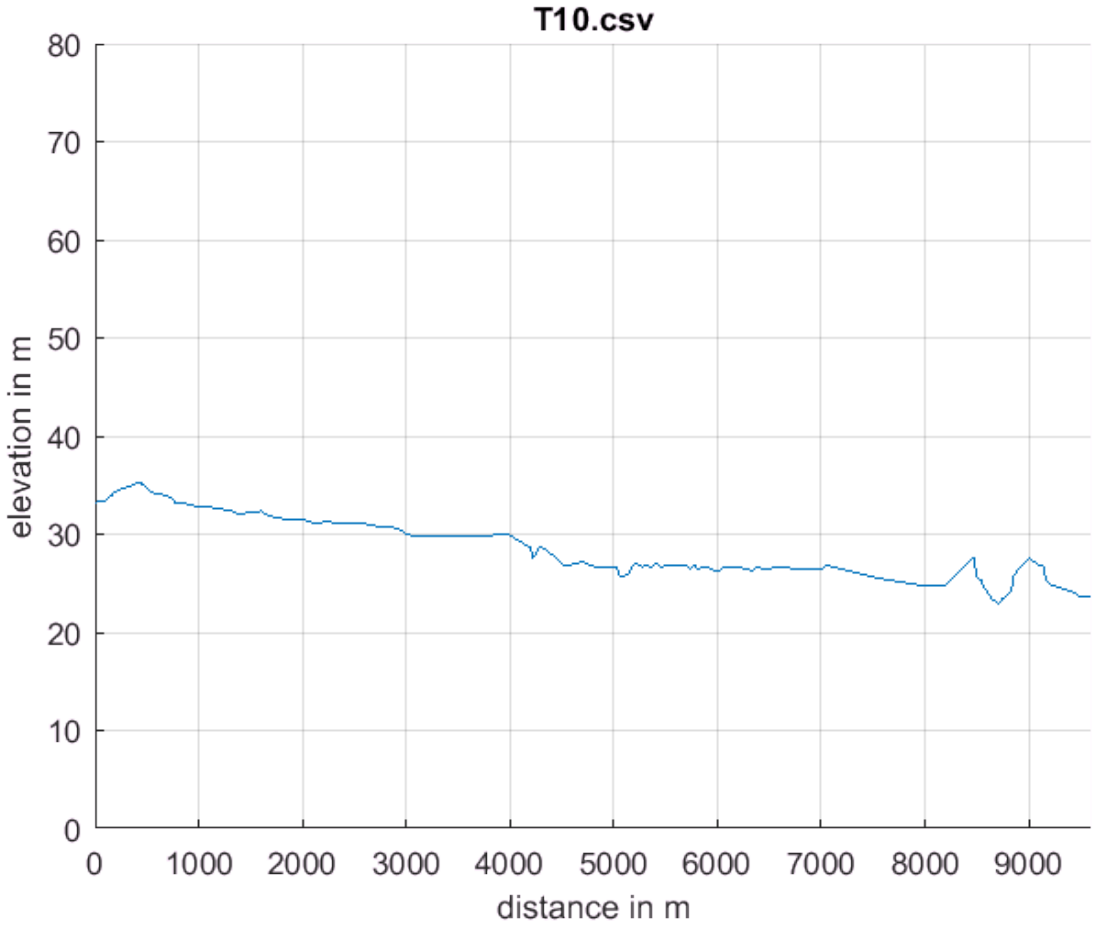
T10.csv
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distance in m
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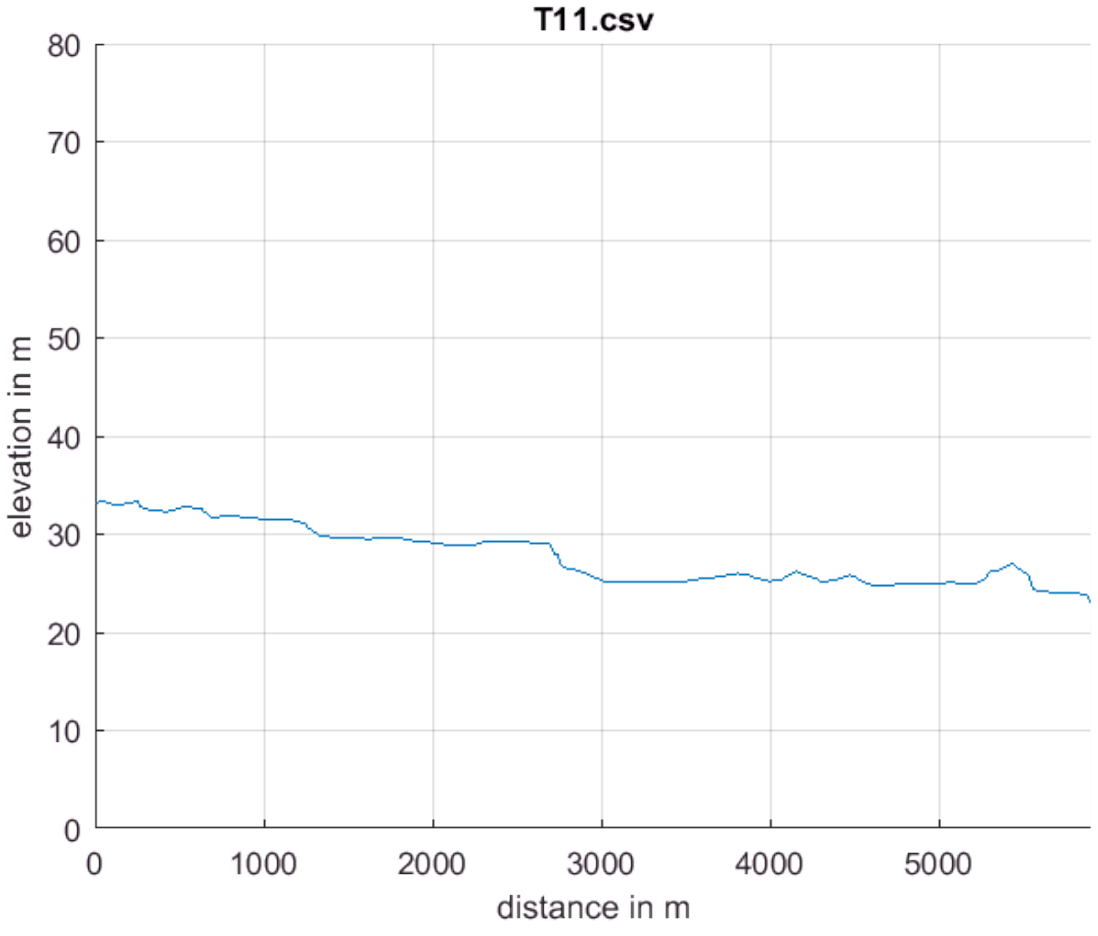
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distance in m
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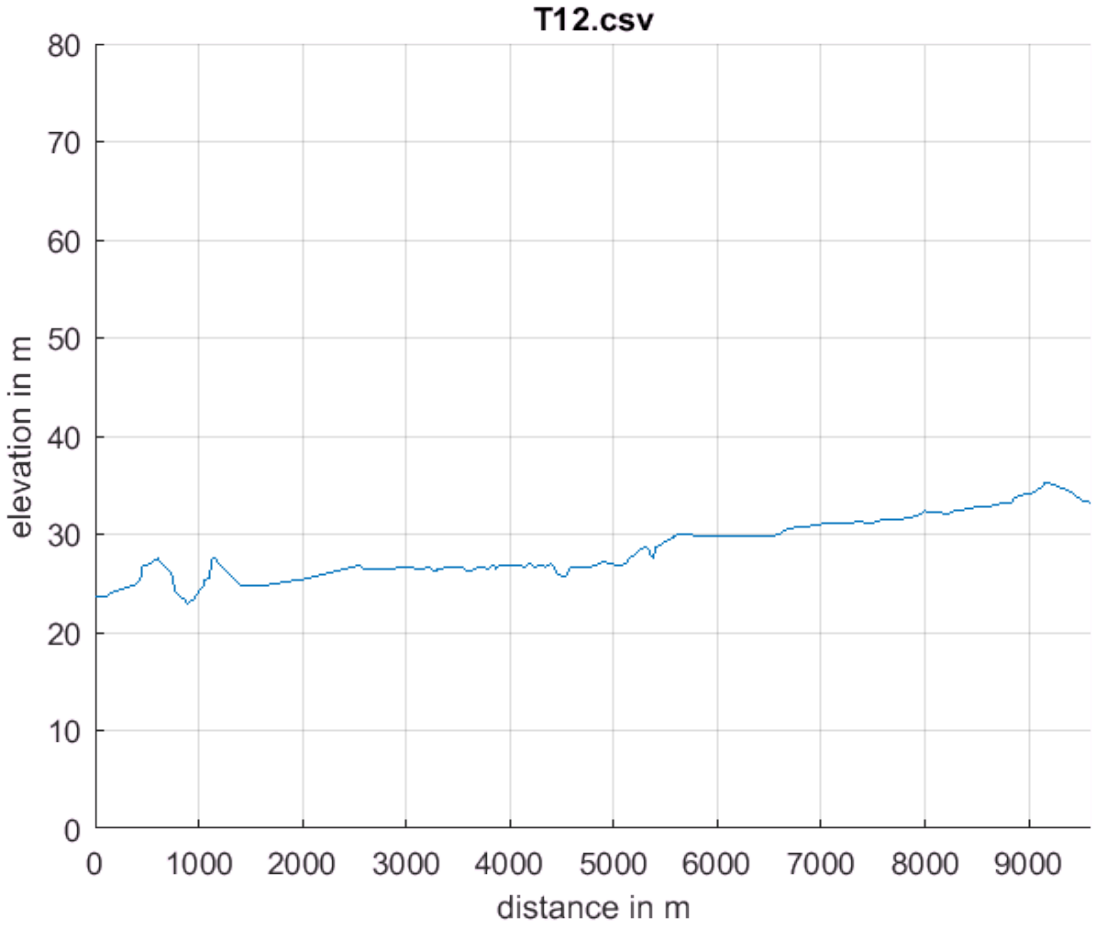
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elevation in m
distance in m
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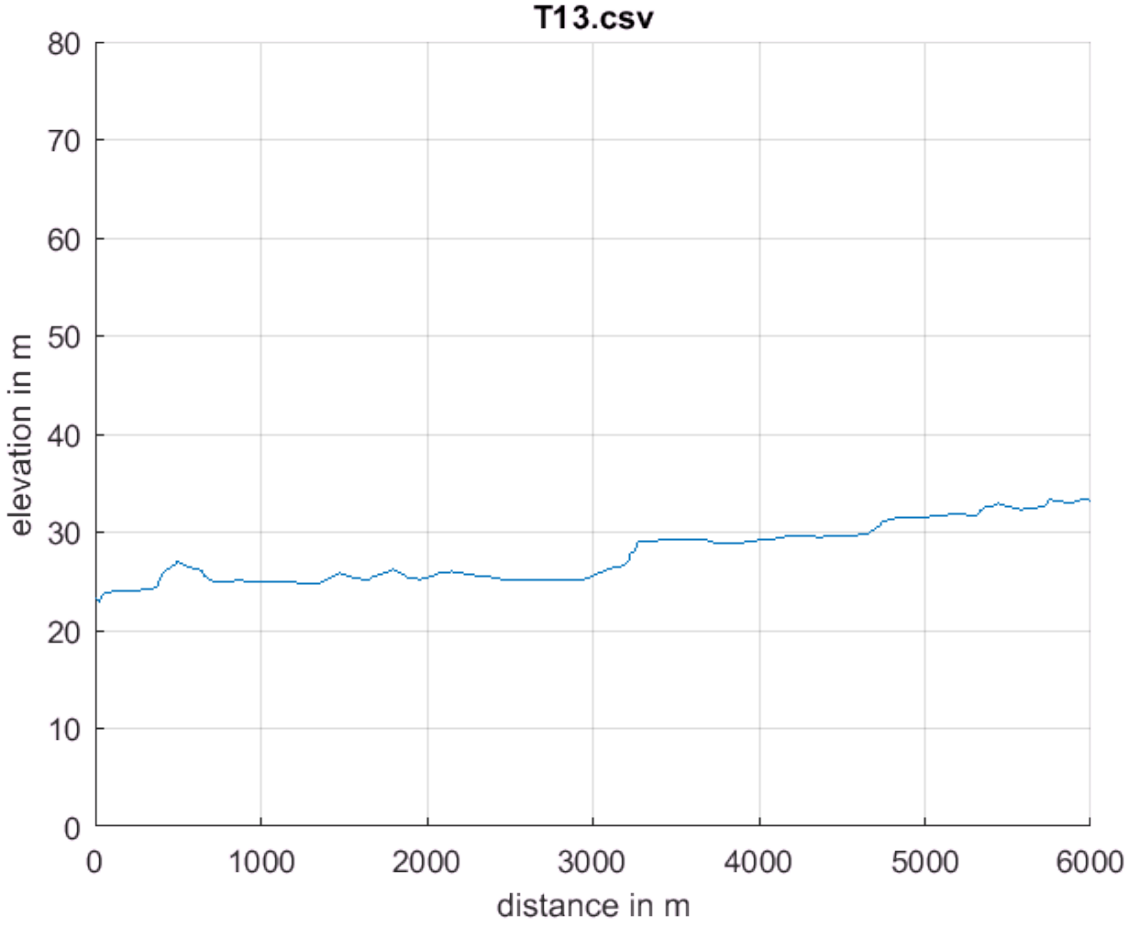
T13.csv
elevation in m
distance in m
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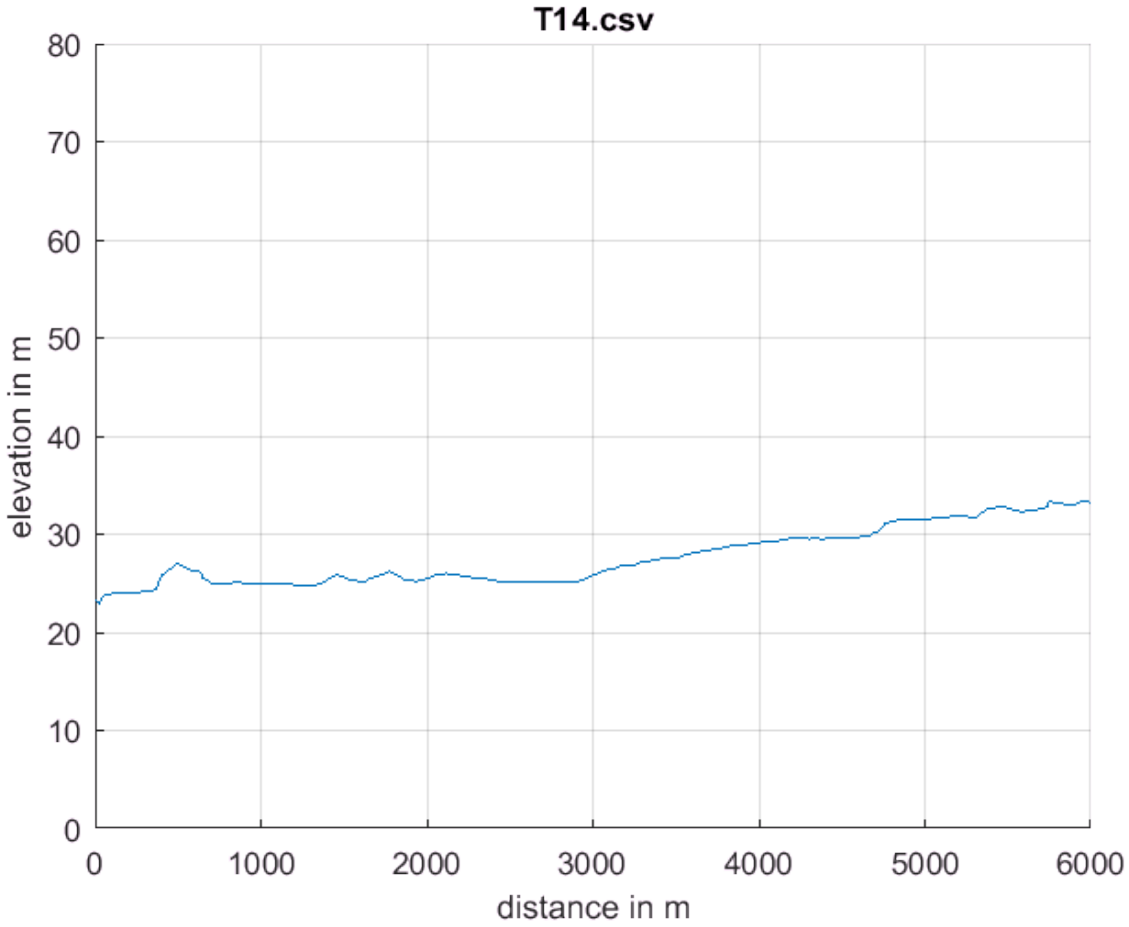
T14.csv
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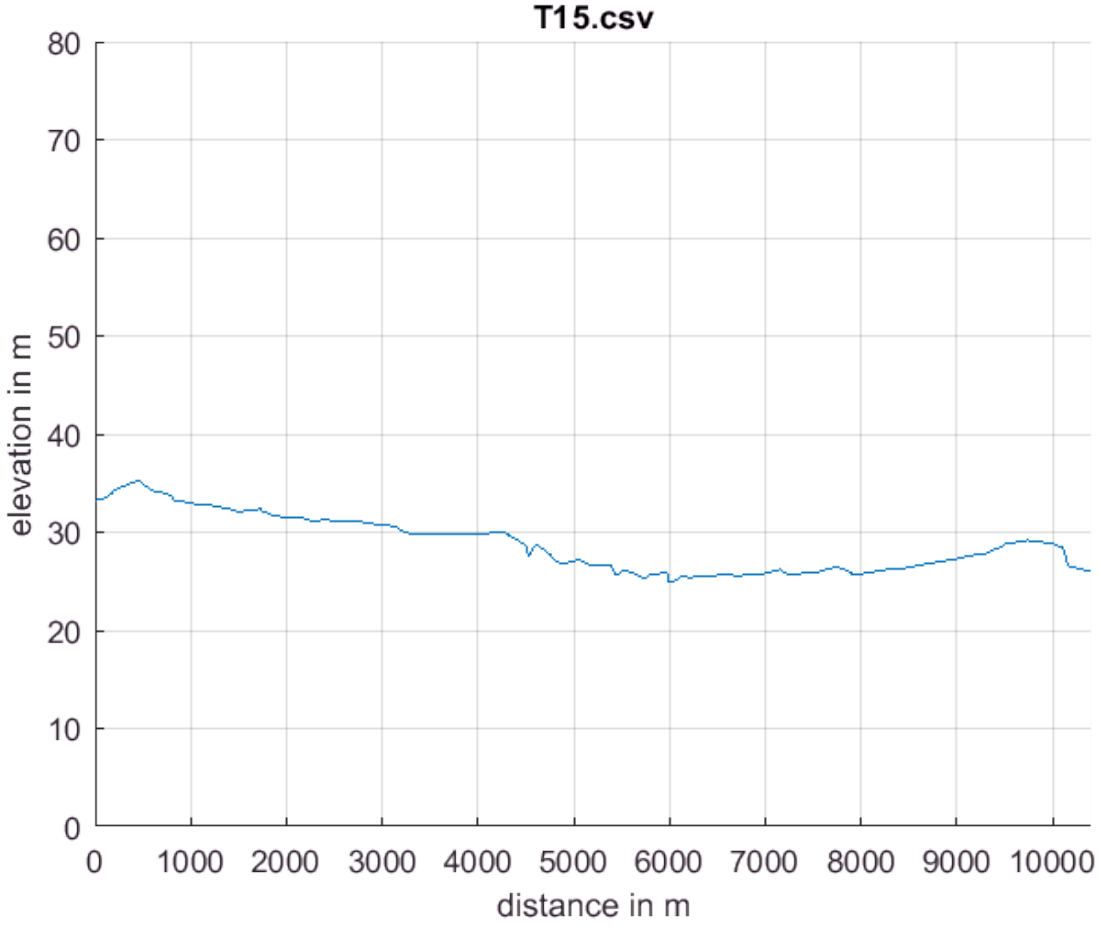
T15.csv
elevation in m
distance in m
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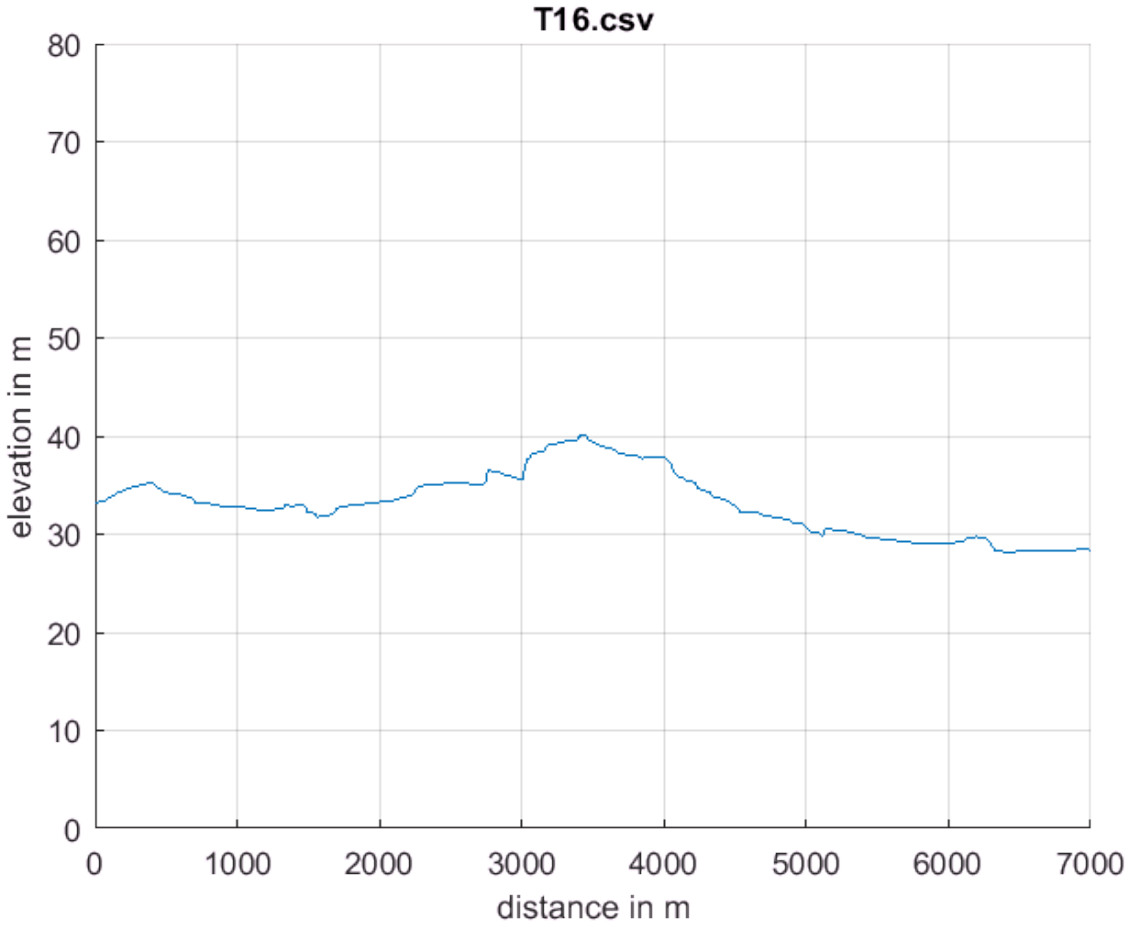
T16.csv
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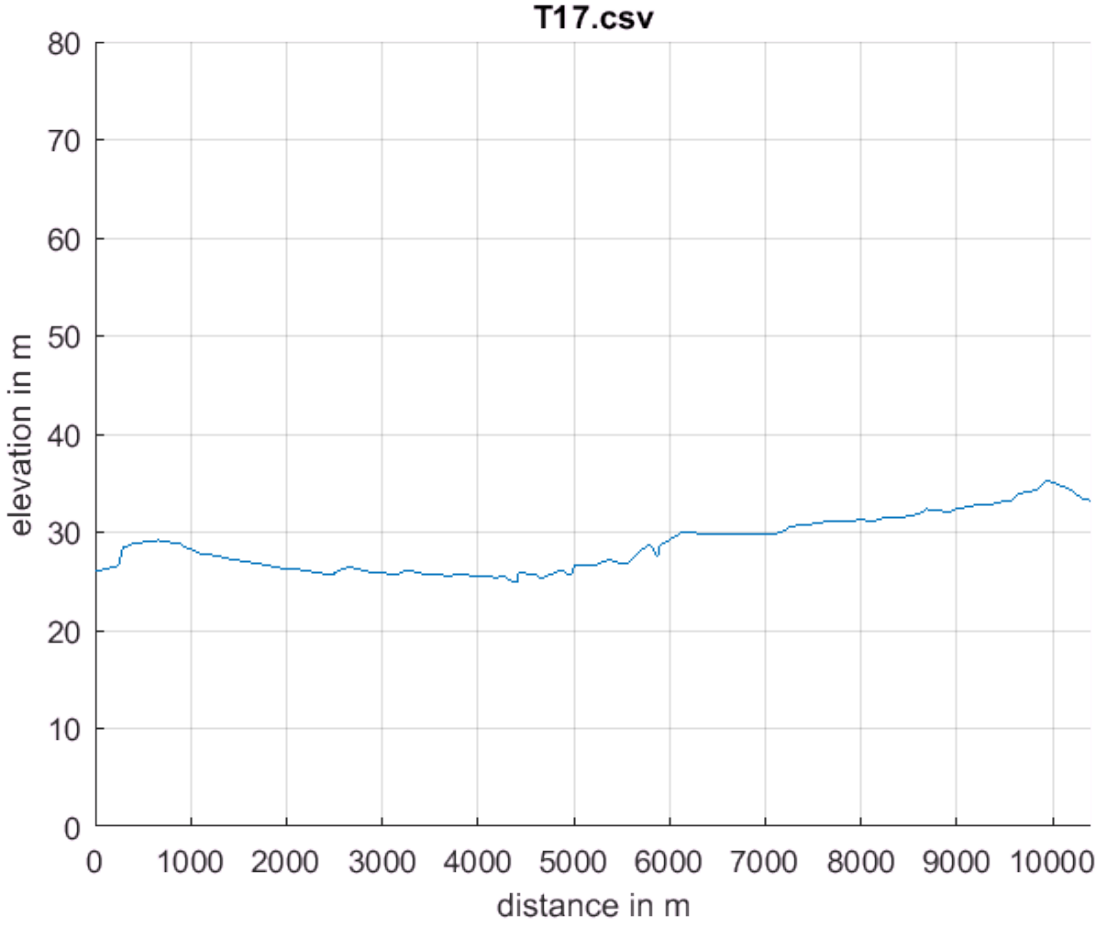
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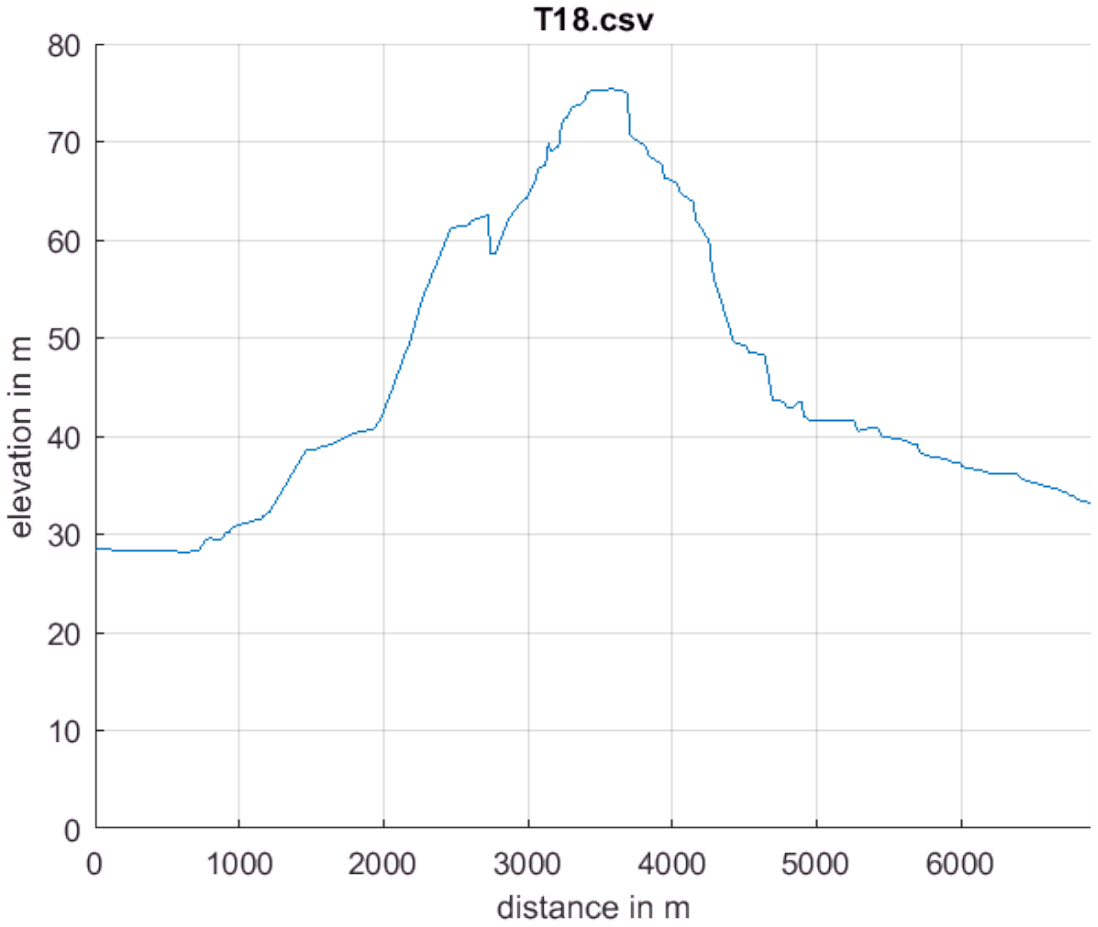
T18.csv
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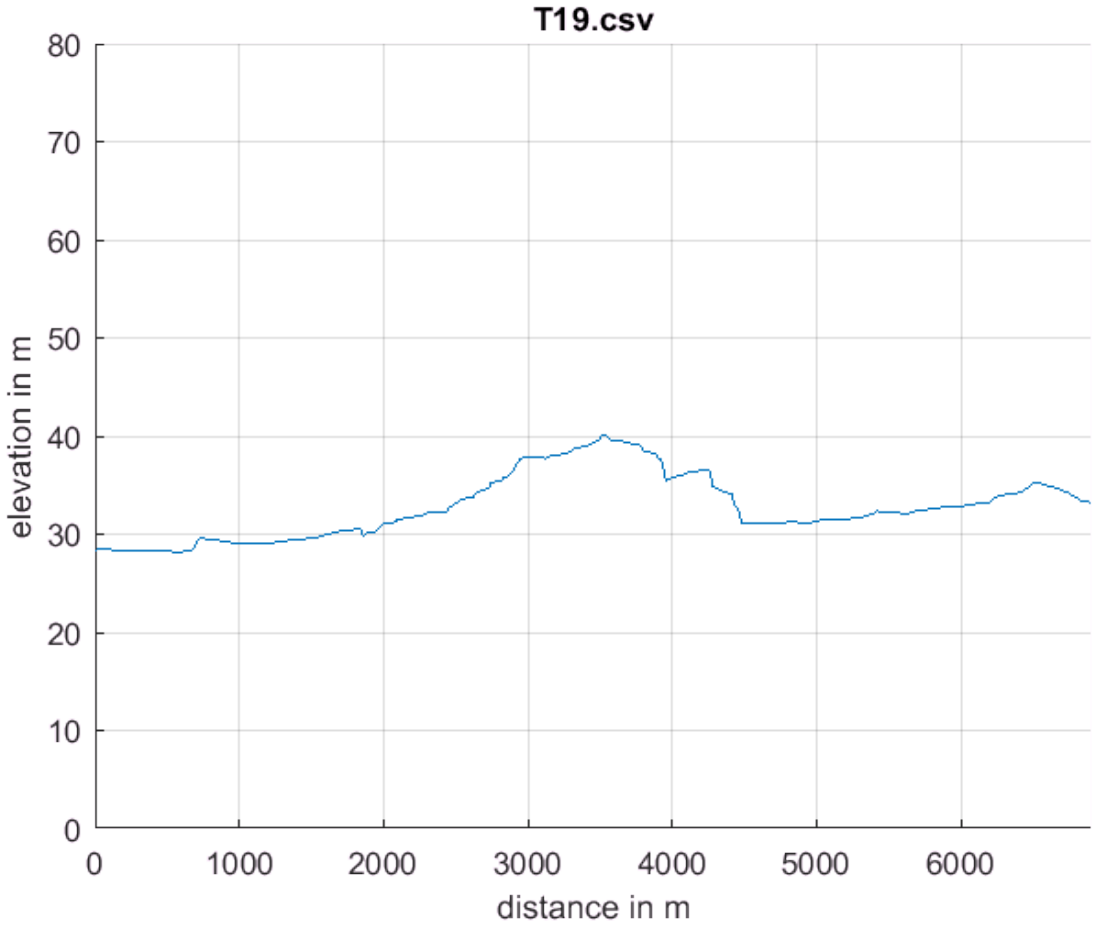
T19.csv
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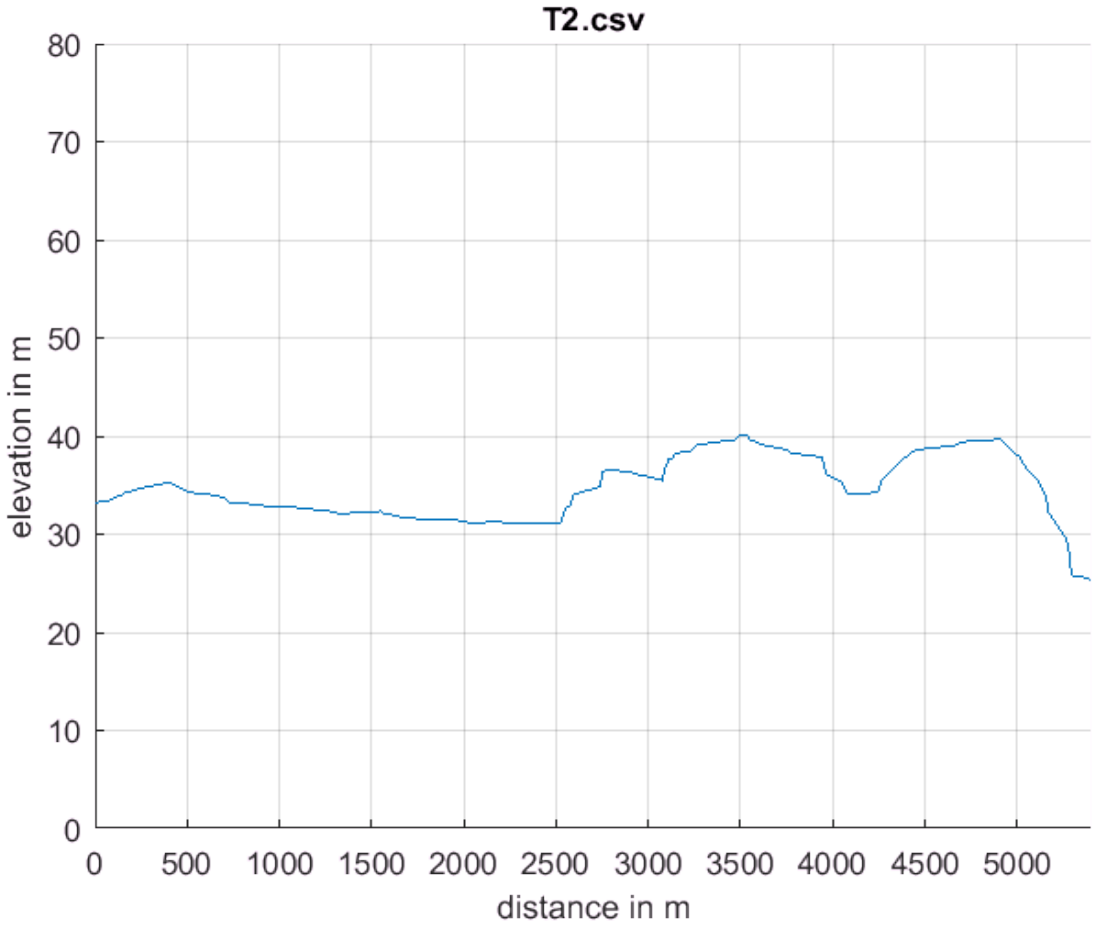
T2.csv
elevation in m
distance in m
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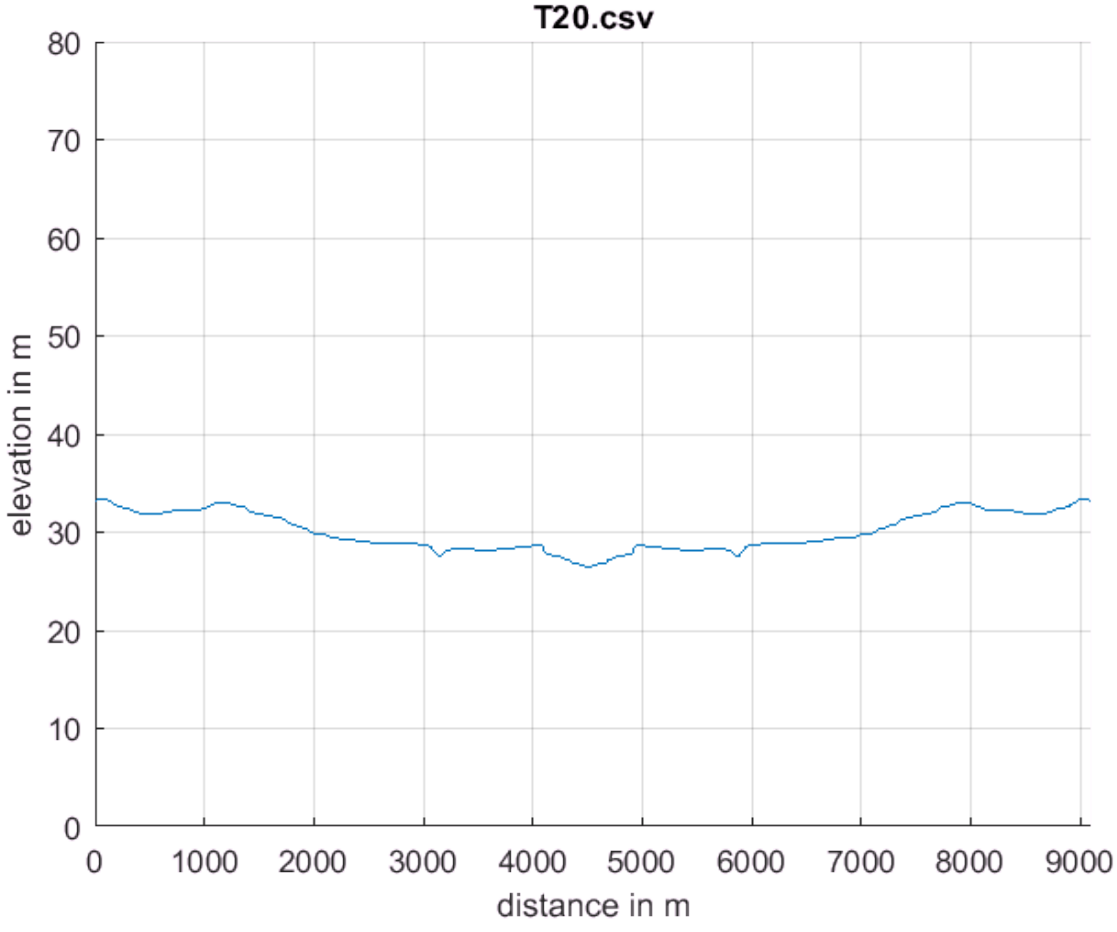
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elevation in m
distance in m
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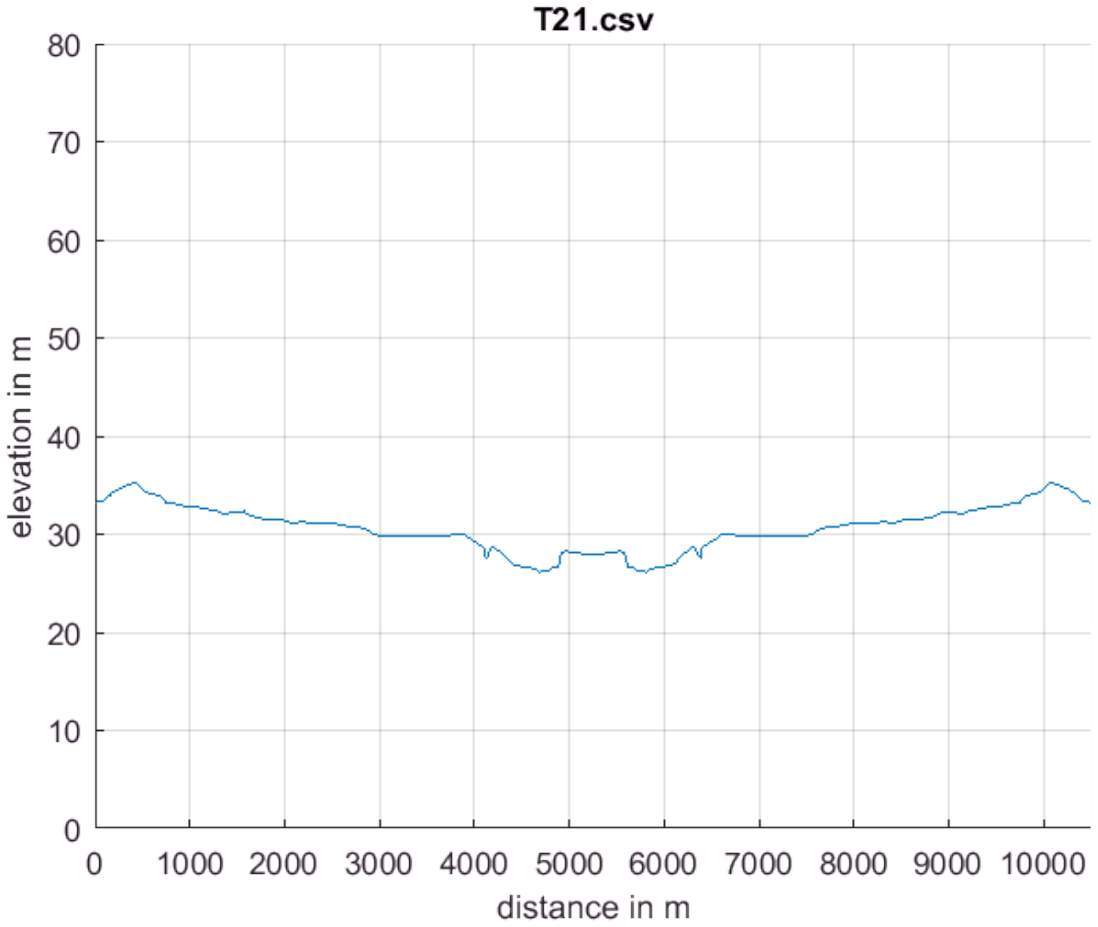
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elevation in m
distance in m
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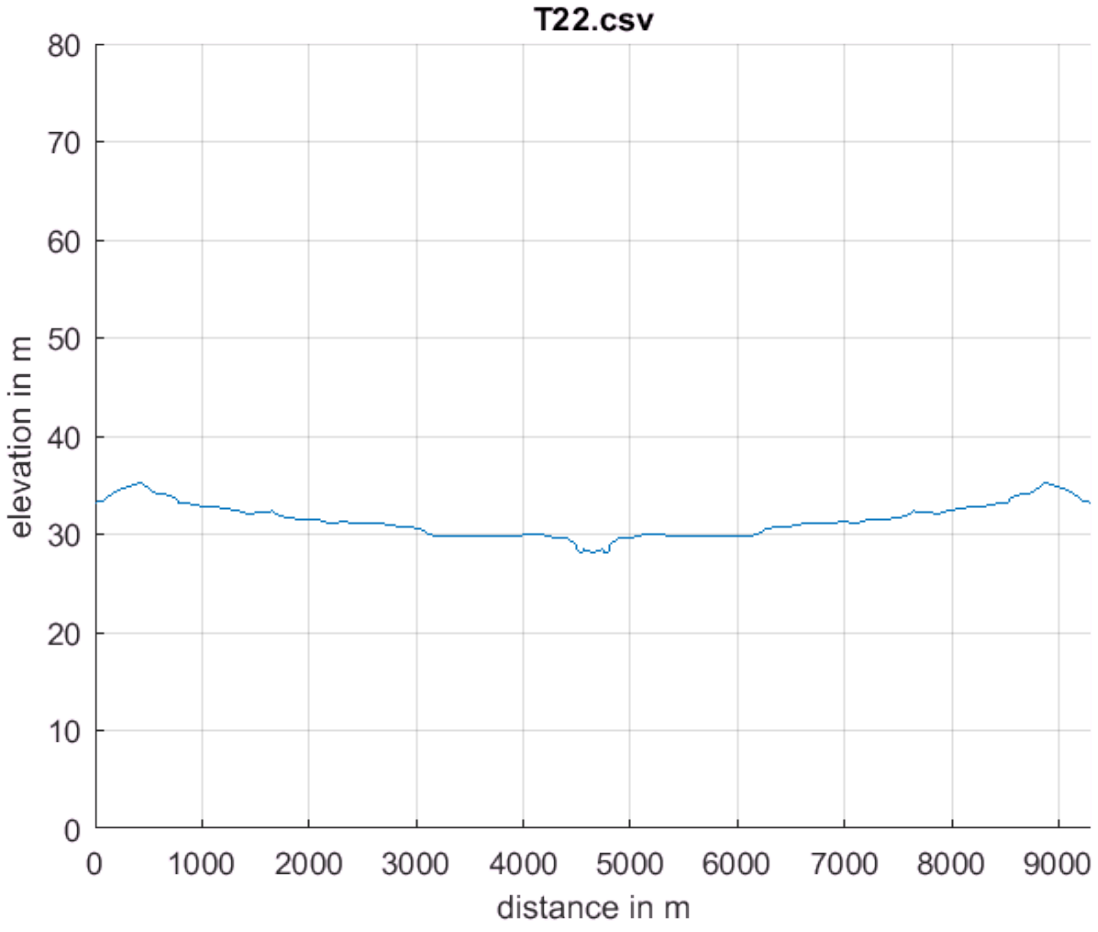
T22.csv
elevation in m
distance in m
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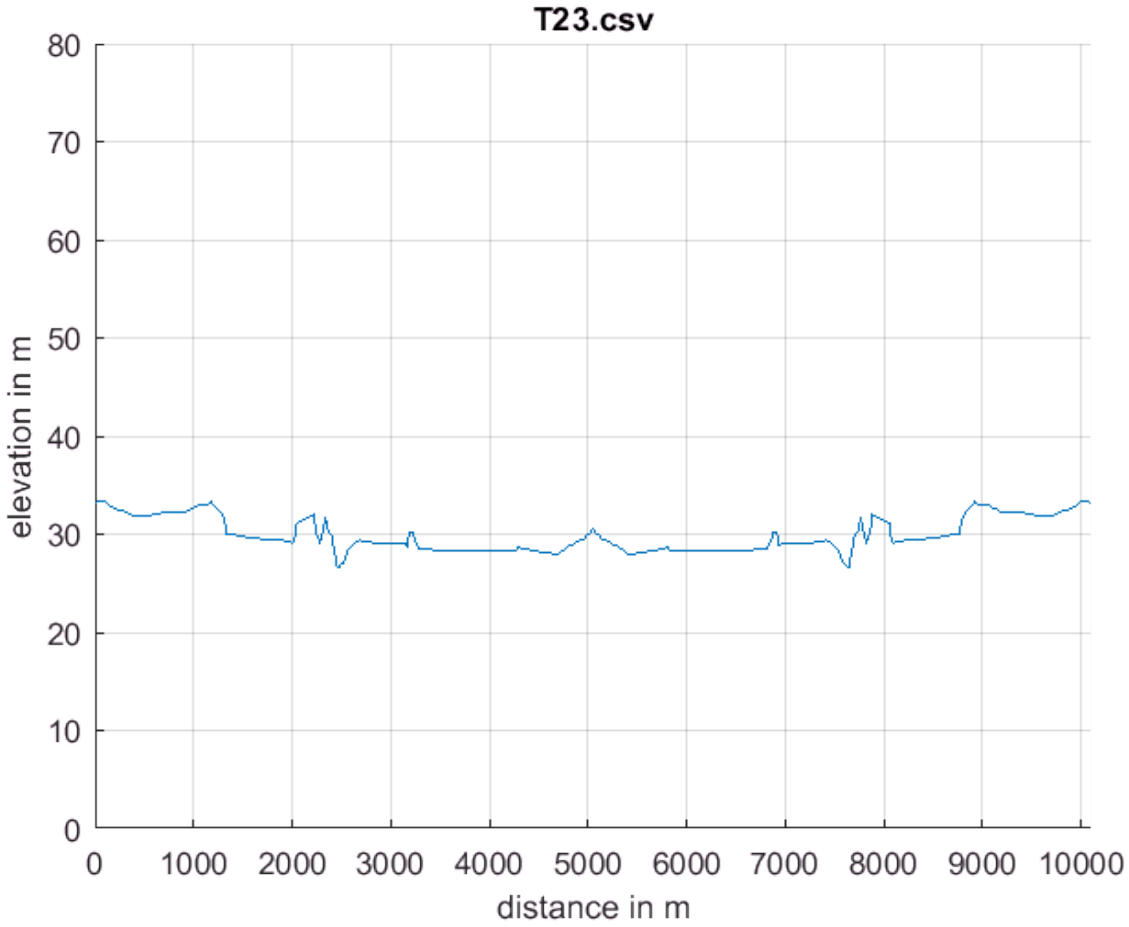
T23.csv
elevation in m
distance in m
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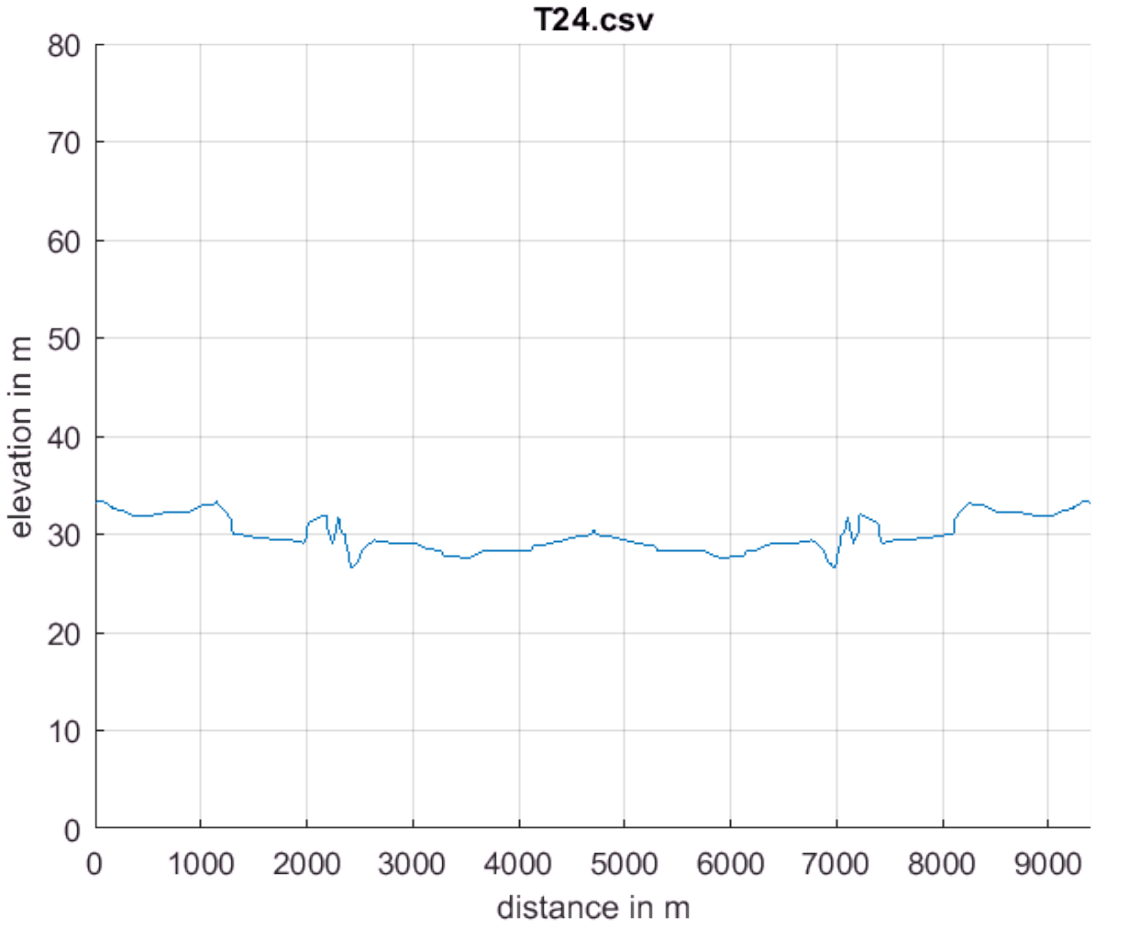
T24.csv
elevation in m
distance in m
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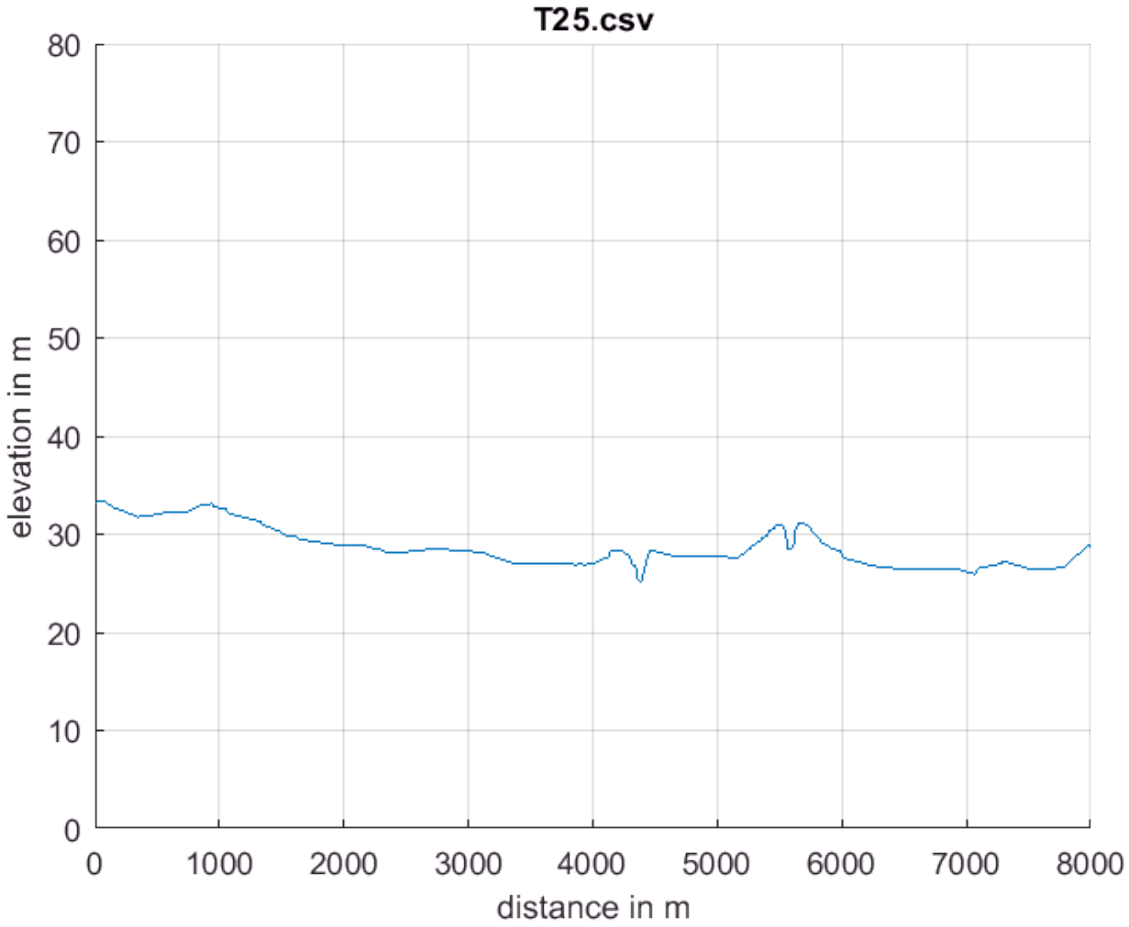
T25.csv
elevation in m
distance in m
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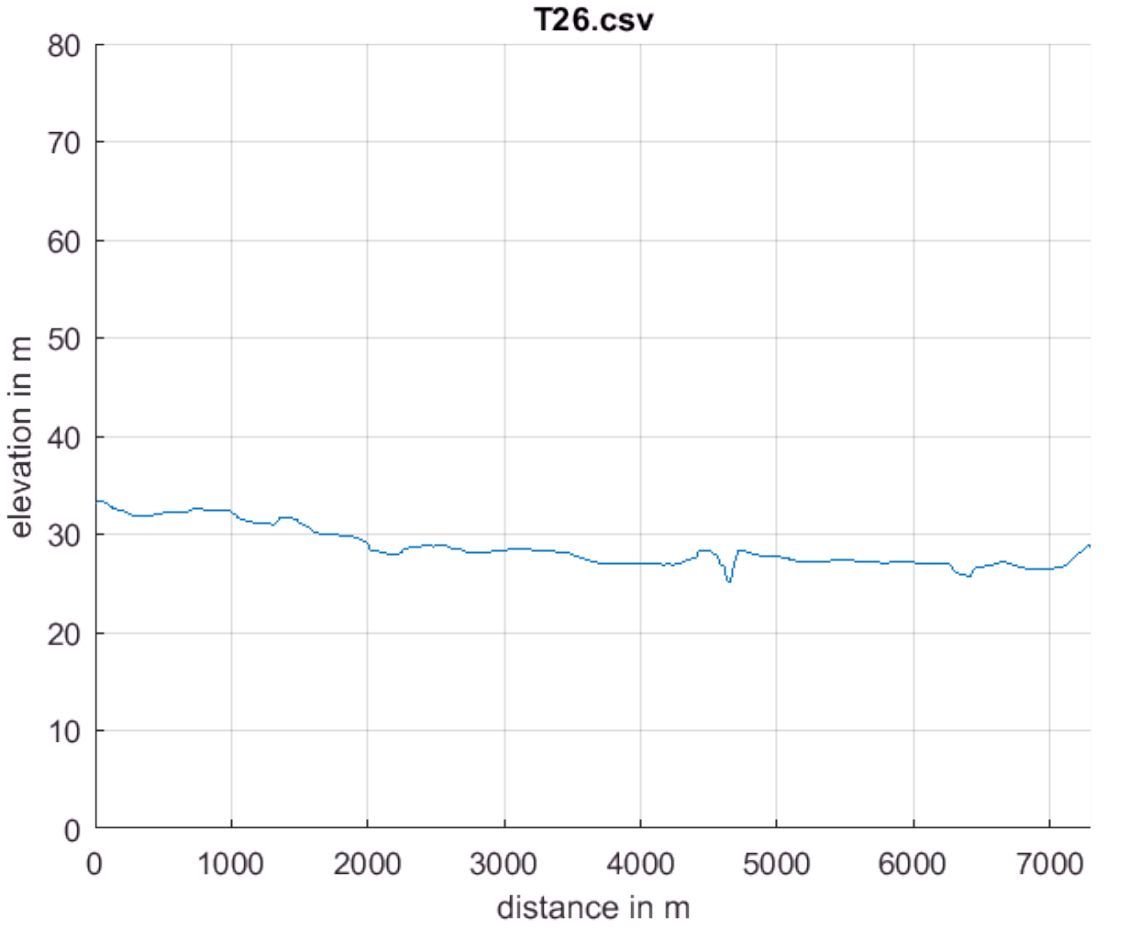
T26.csv
elevation in m
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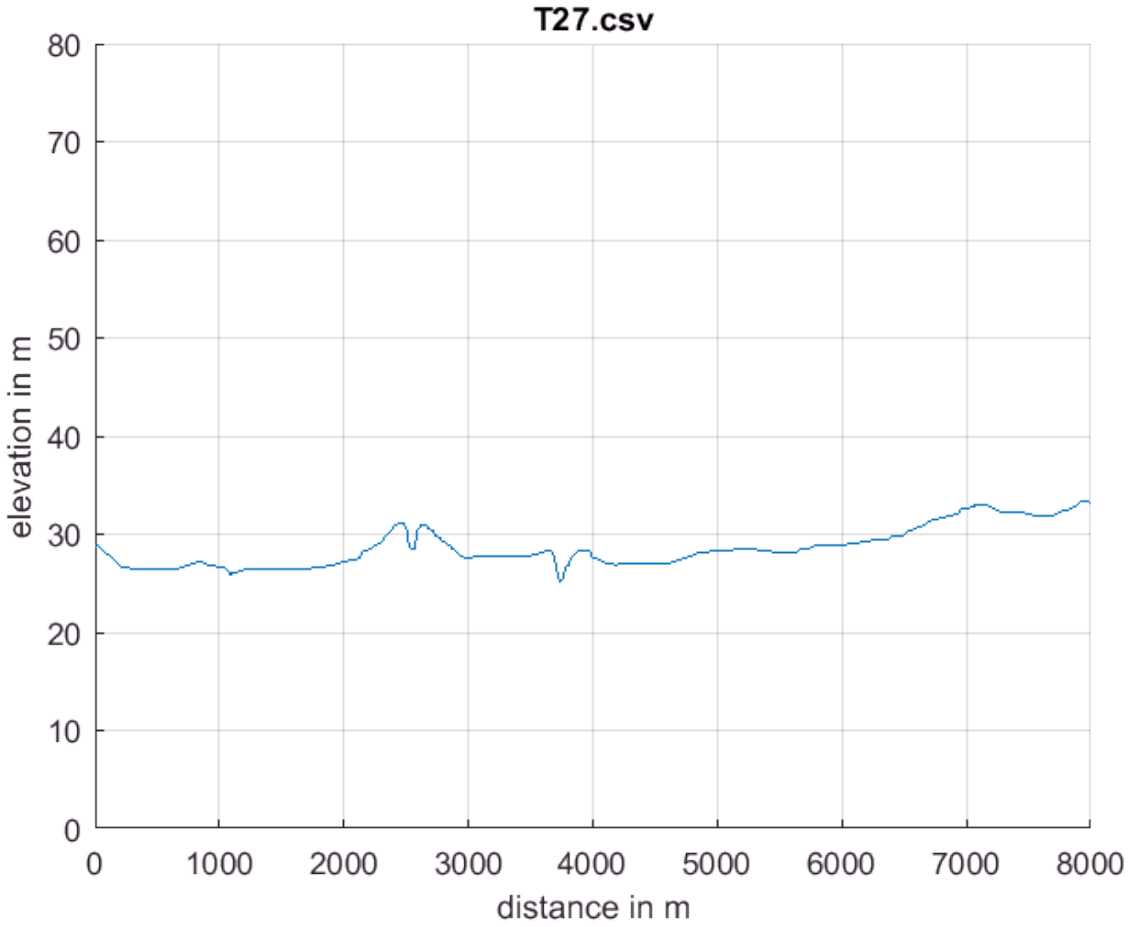
T27.csv
elevation in m
distance in m
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7000
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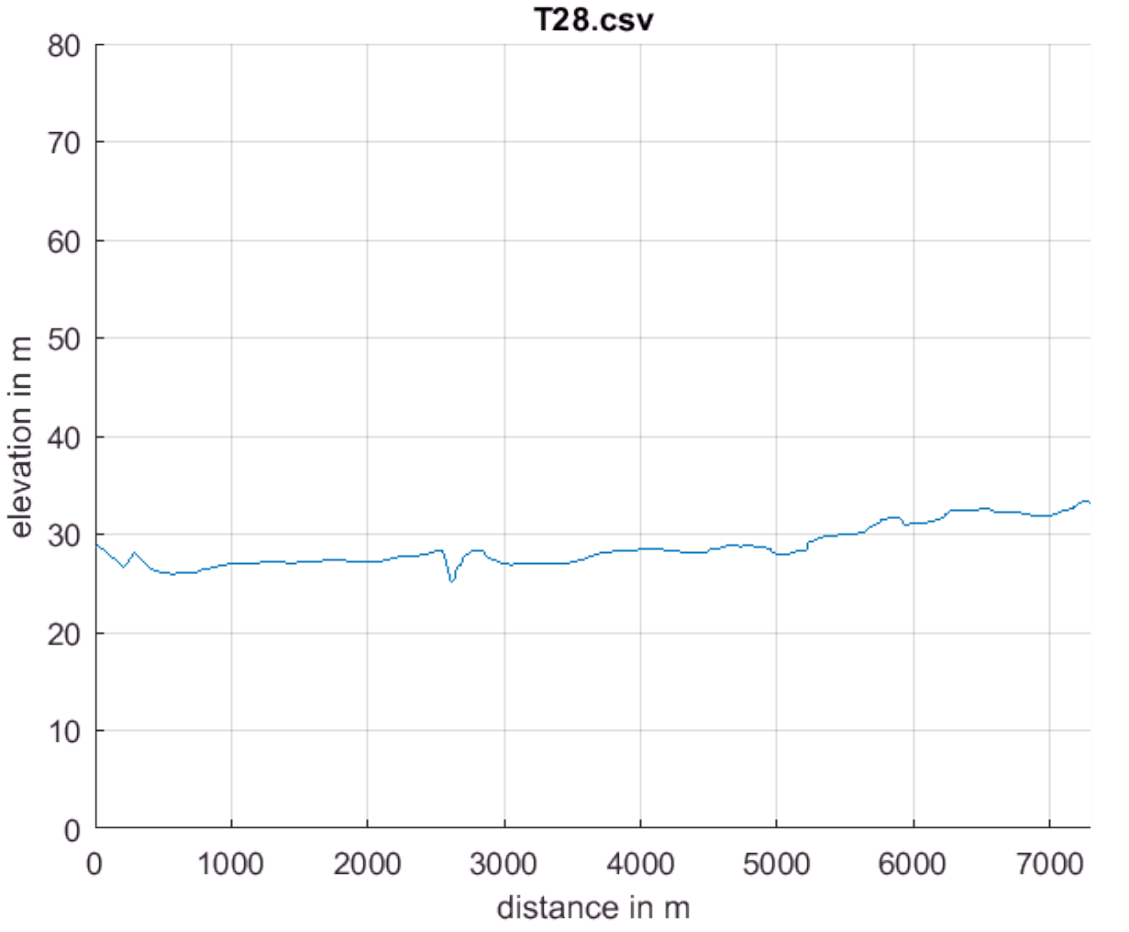
T28.csv
elevation in m
distance in m
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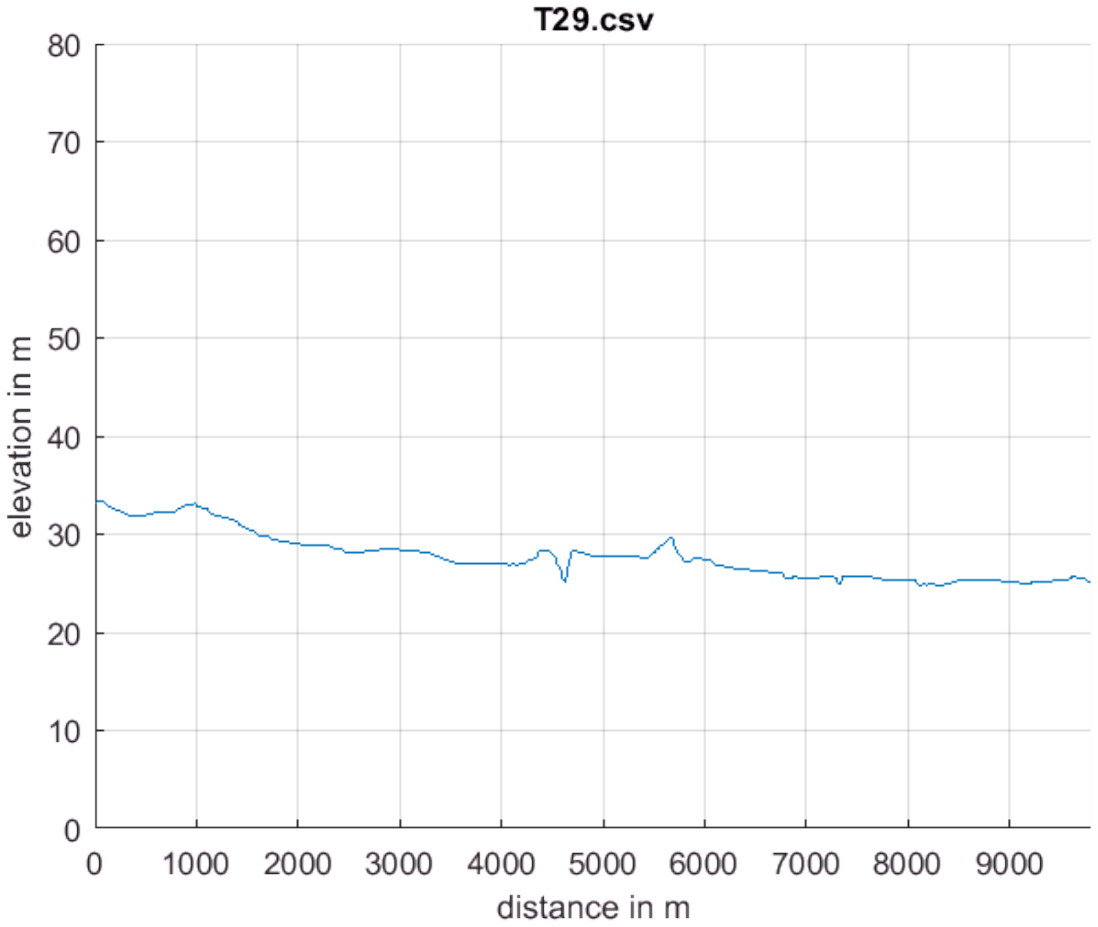
6000
7000


T29.csv
elevation in m
distance in m
0
10
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40
50
60
70
80
0
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3000
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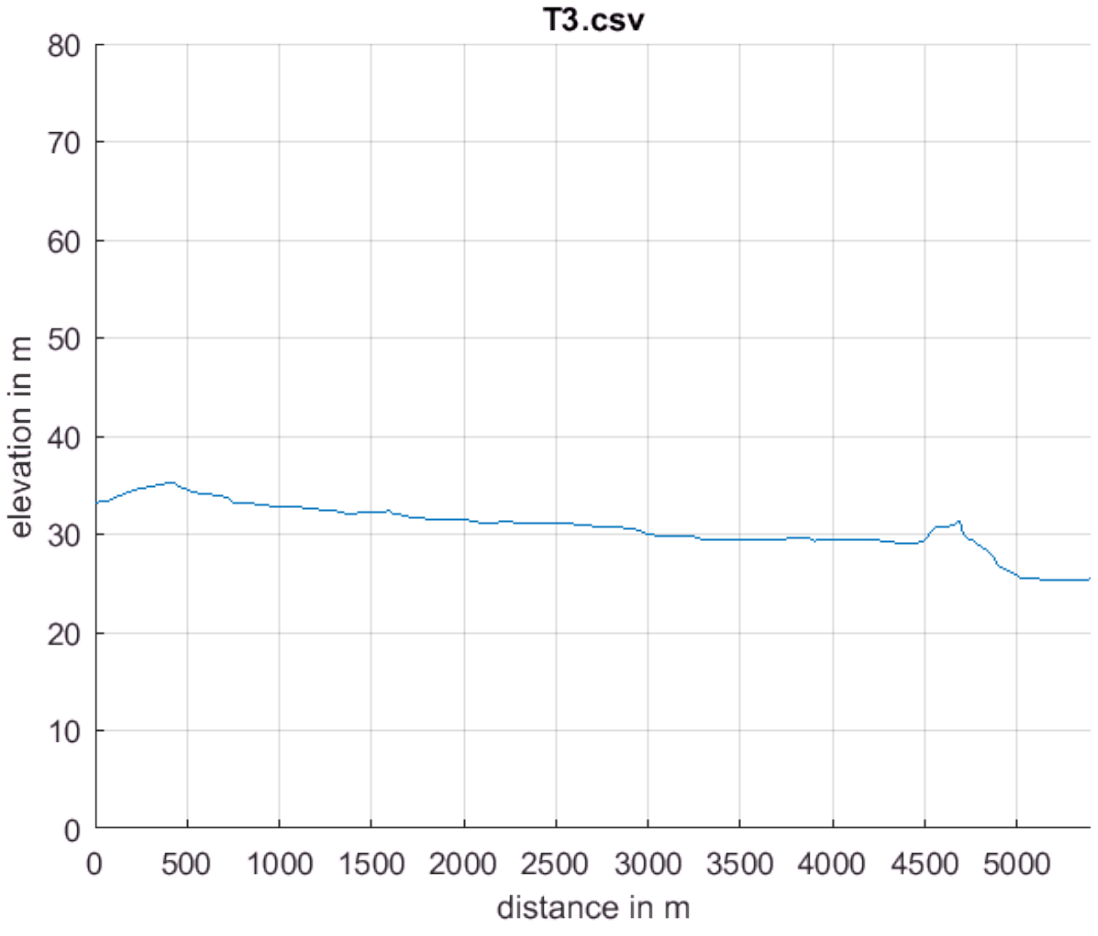
7000
8000
9000


T3.csv
elevation in m
distance in m
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10
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40
50
60
70
80
0
500
1000
1500
2000
2500
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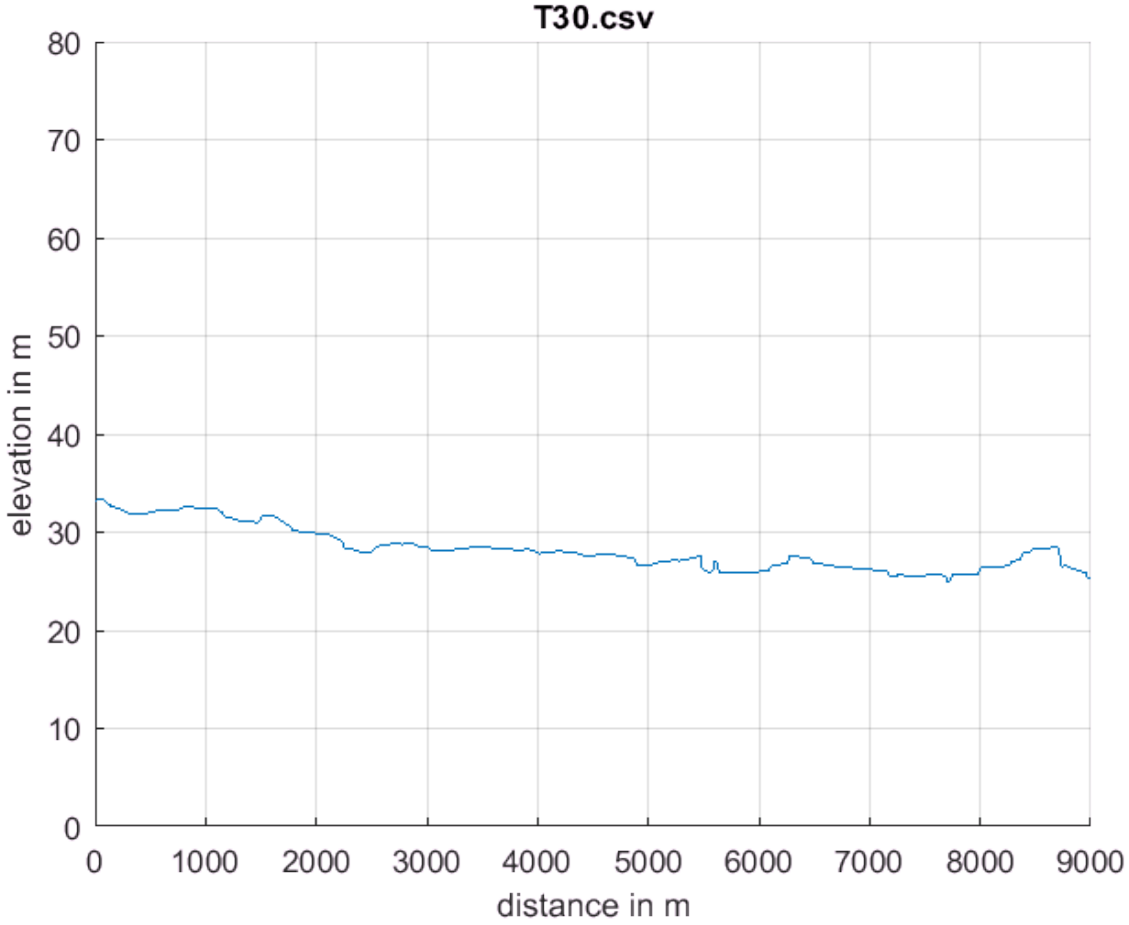
4000
4500
5000


T30.csv
elevation in m
distance in m
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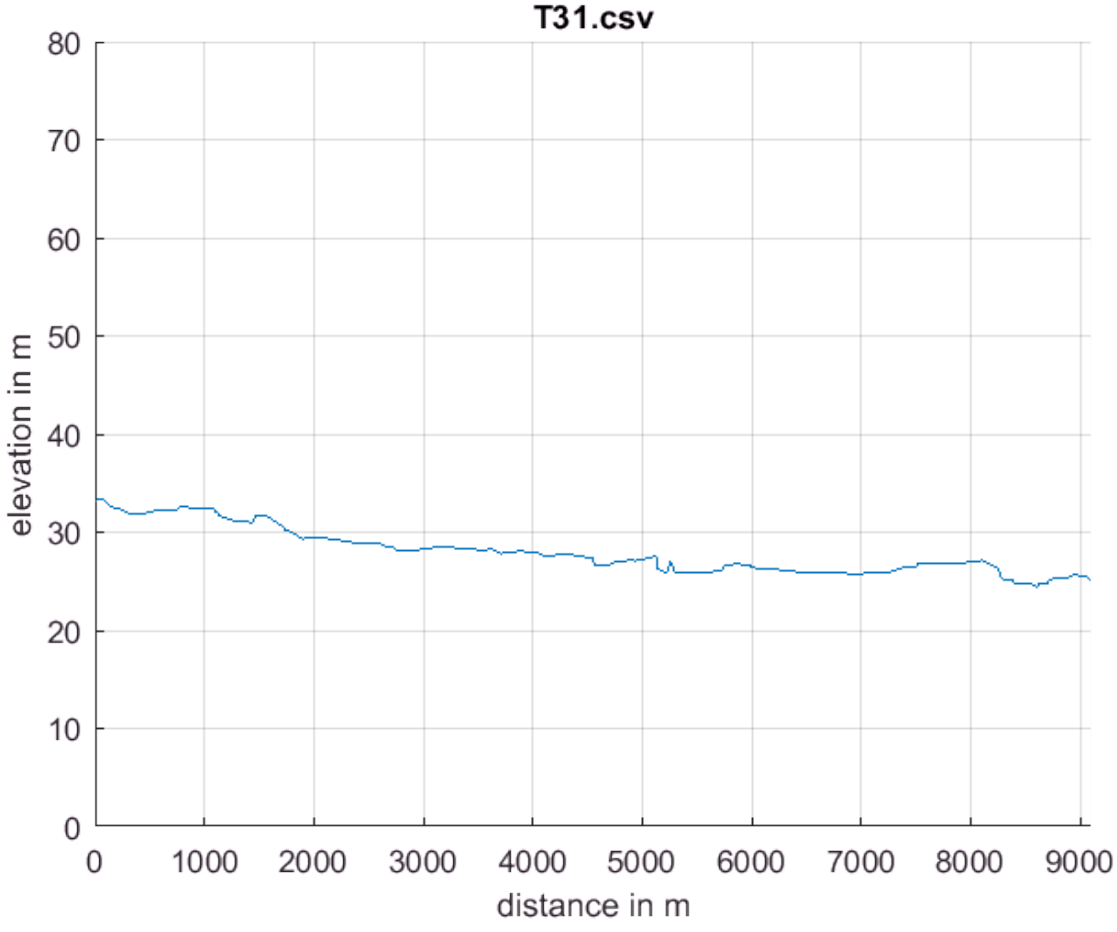
50
60
70
80
0
1000
2000
3000
4000
5000
6000
7000
8000
9000


T31.csv
elevation in m
distance in m
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30
40
50
60
70
80
0
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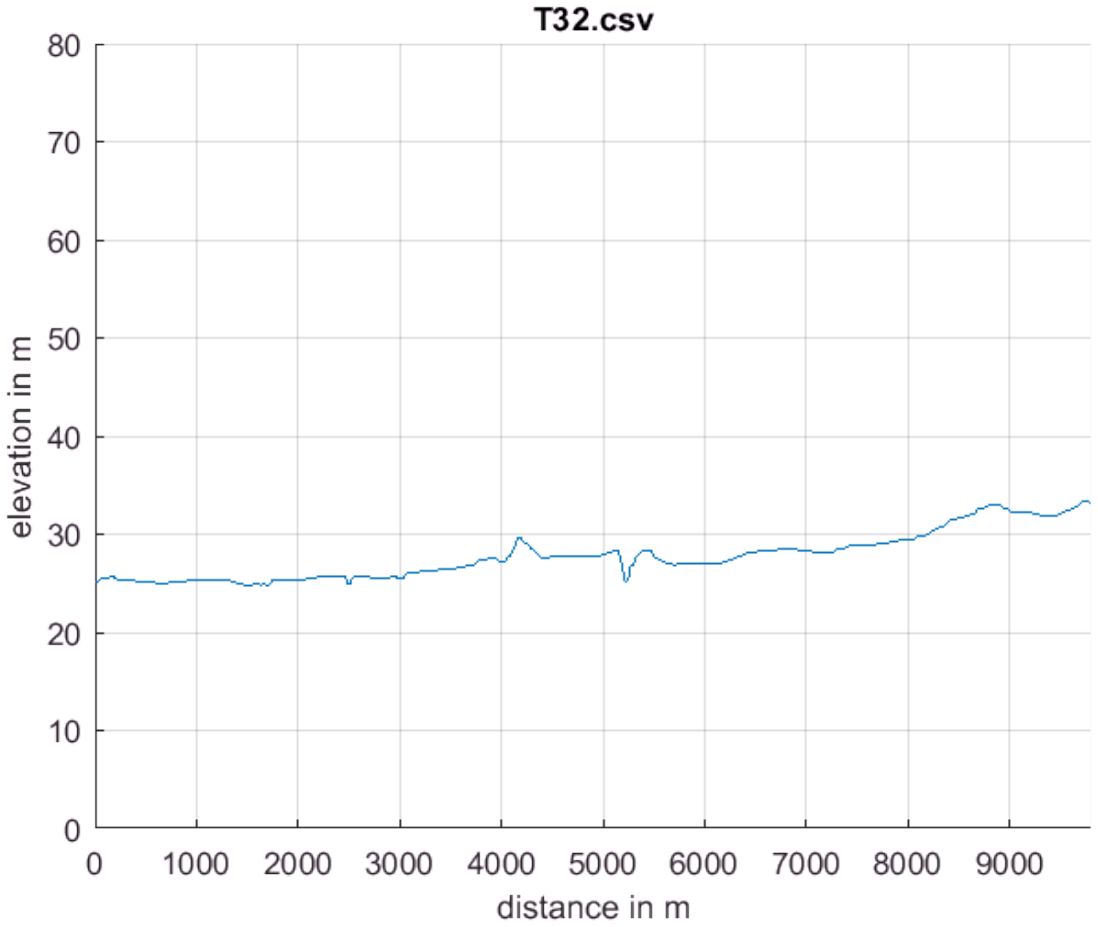
2000
3000
4000
5000
6000
7000
8000
9000


T32.csv
elevation in m
distance in m
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30
40
50
60
70
80
0
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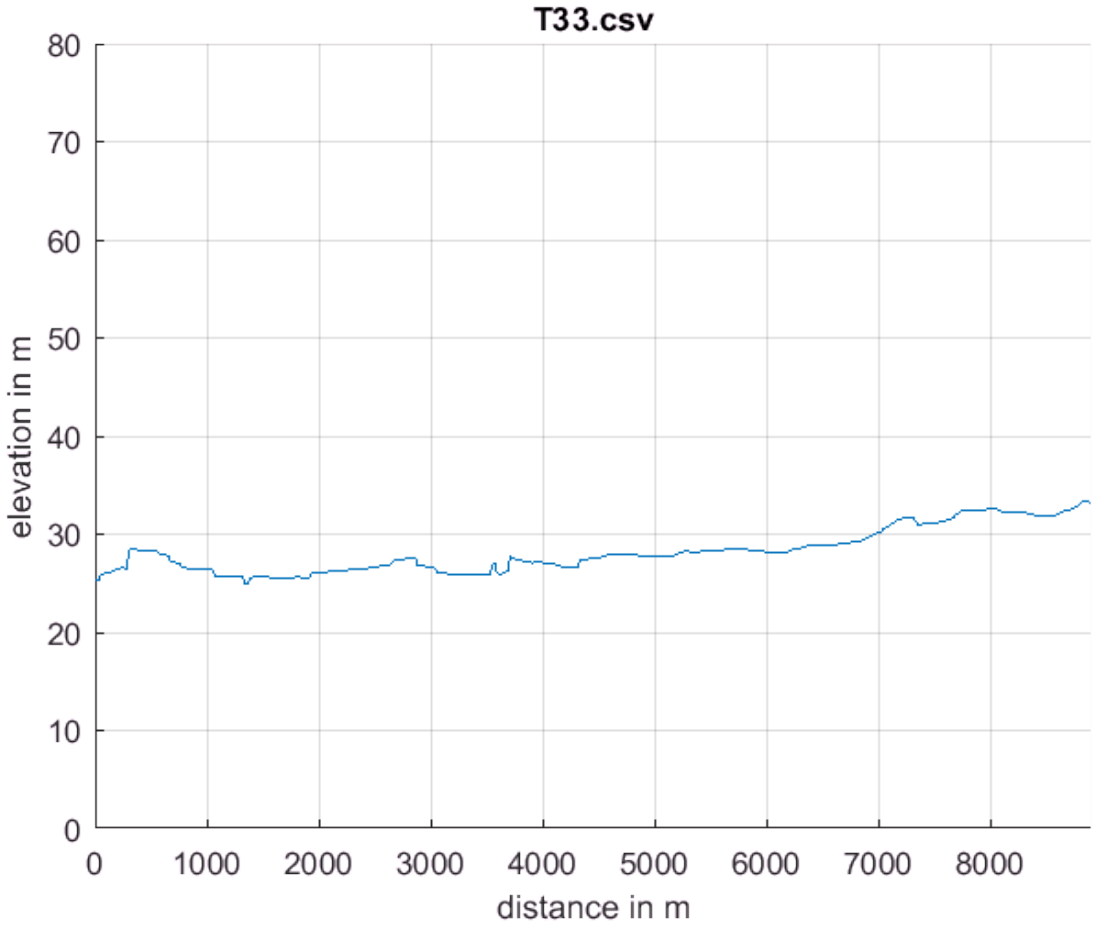
2000
3000
4000
5000
6000
7000
8000
9000


T33.csv
elevation in m
distance in m
0
10
20
30
40
50
60
70
80
0
1000
2000
3000
4000
5000
6000
7000
8000

T34.csv
elevation in m
distance in m
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10
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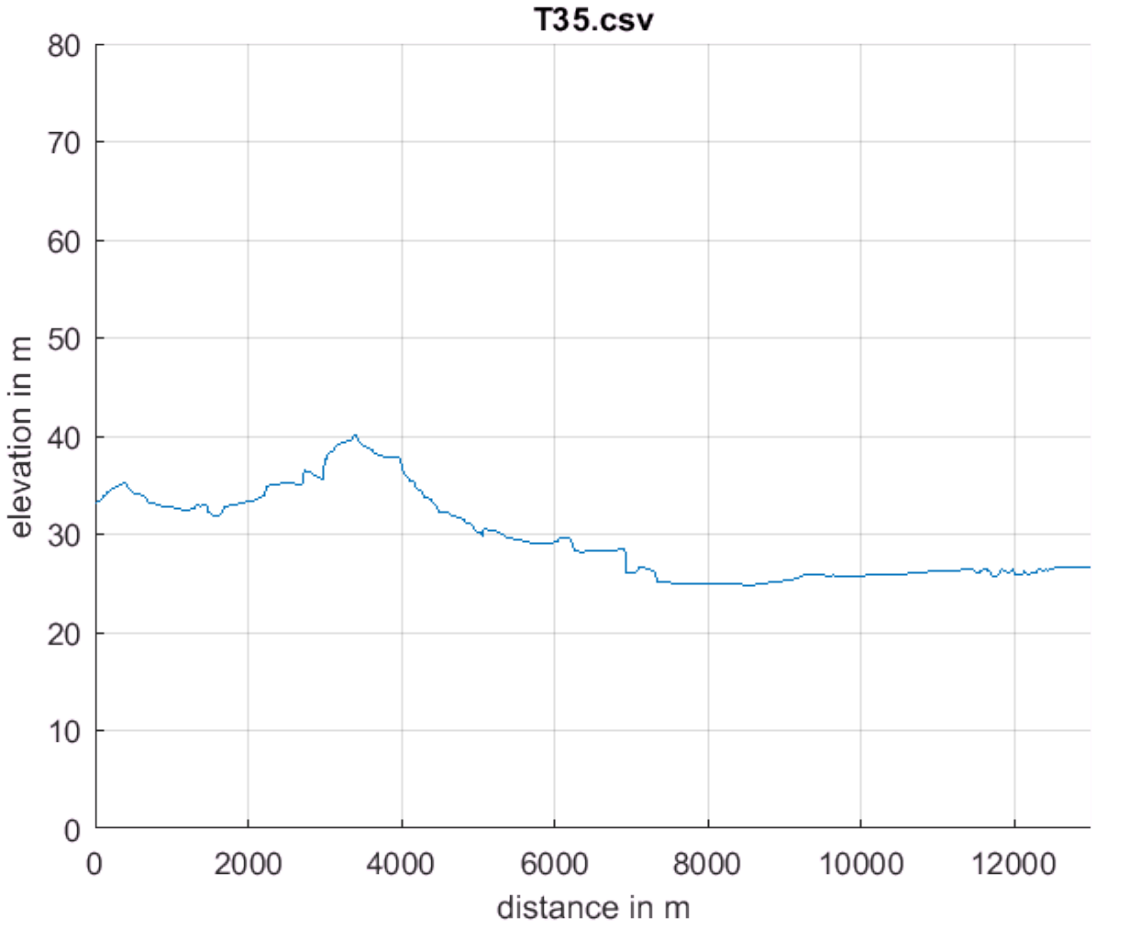
30
40
50
60
70
80
0
1000
2000
3000
4000
5000
6000
7000
8000
9000


T35.csv
elevation in m
distance in m
0
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20
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40
50
60
70
80
0
2000
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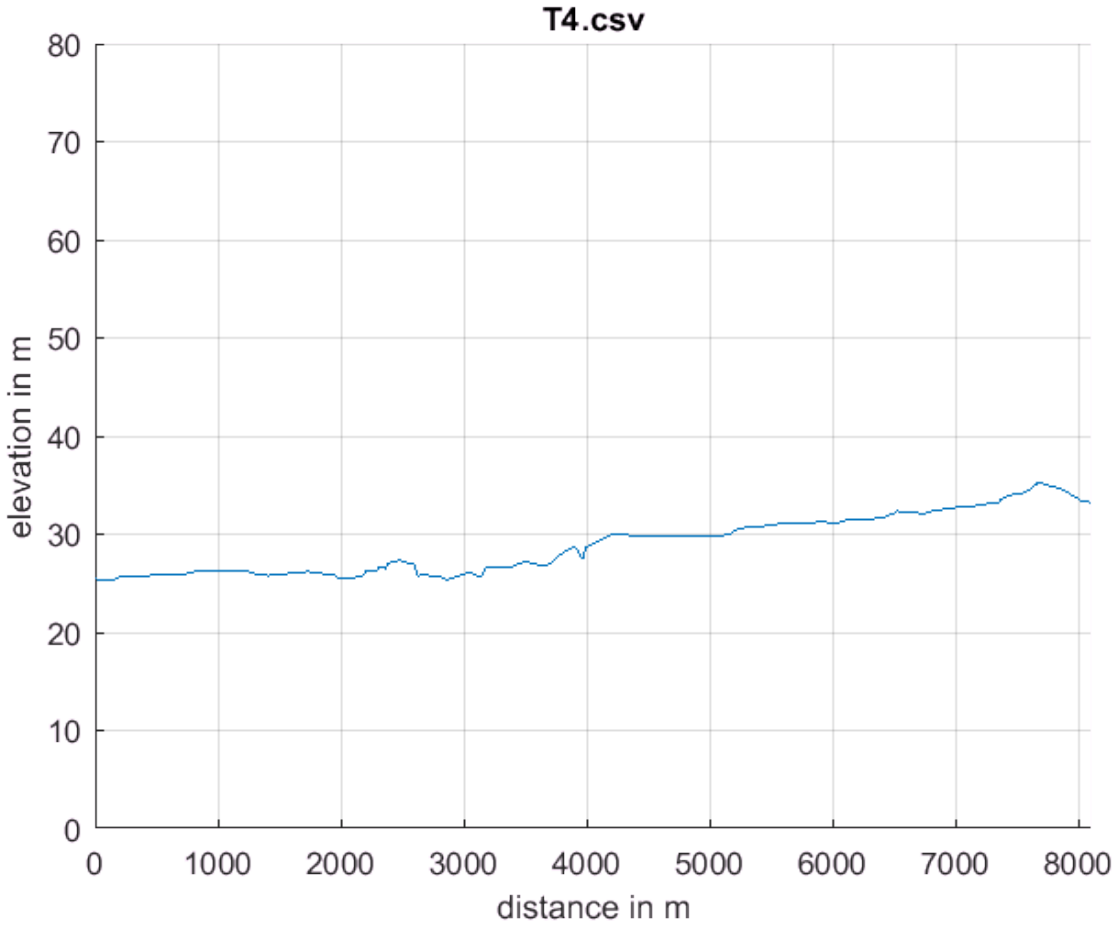
6000
8000
10000
12000


T4.csv
elevation in m
distance in m
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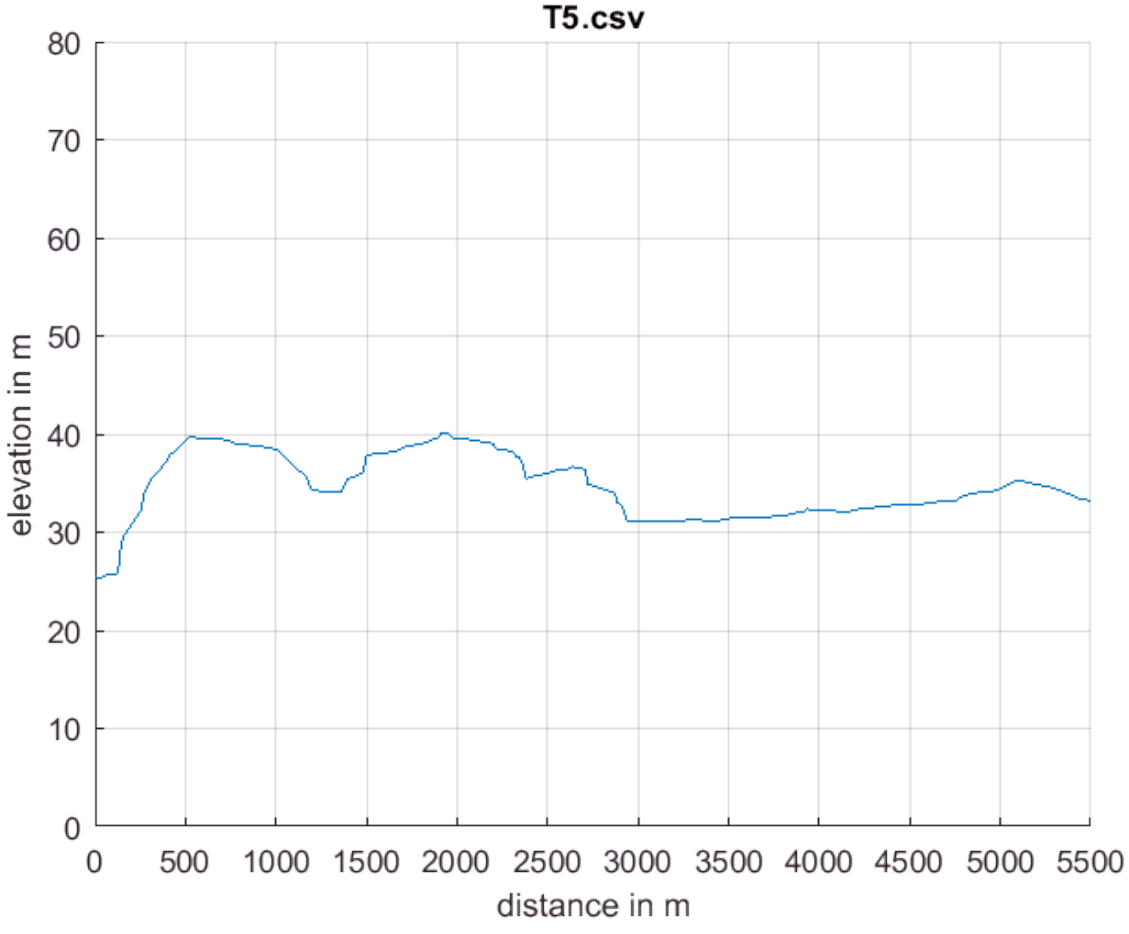
10
20
30
40
50
60
70
80
0
1000
2000
3000
4000
5000
6000
7000
8000


T5.csv
elevation in m
distance in m
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30
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50
60
70
80
0
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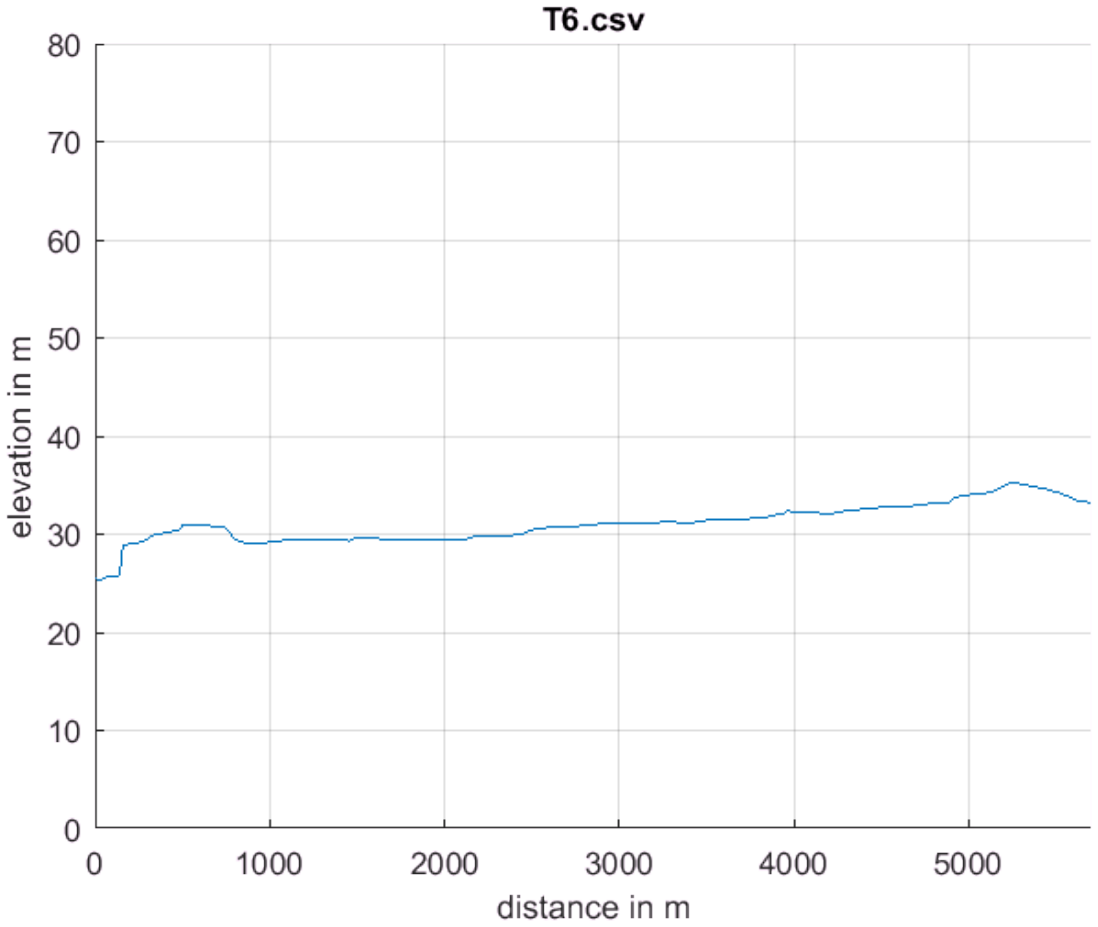
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500


T6.csv
elevation in m
distance in m
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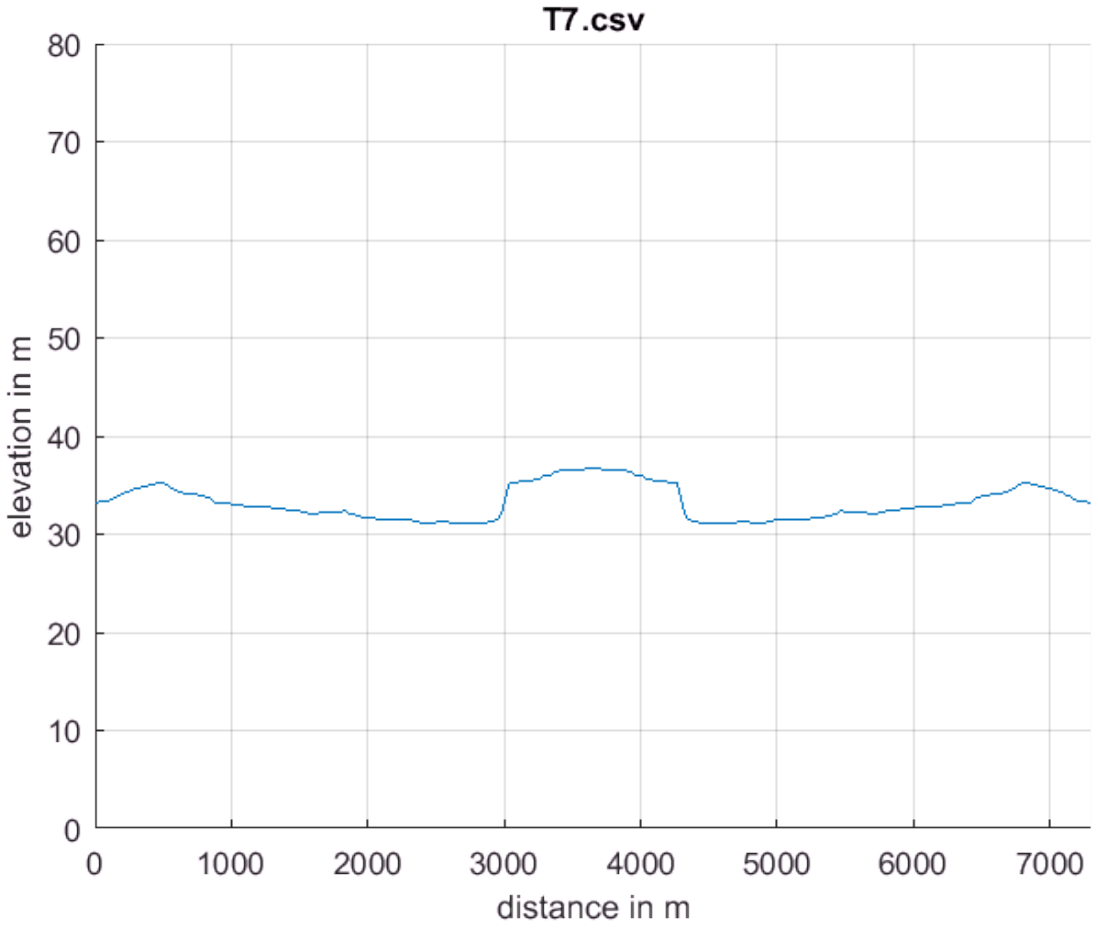
10
20
30
40
50
60
70
80
0
1000
2000
3000
4000
5000


T7.csv
elevation in m
distance in m
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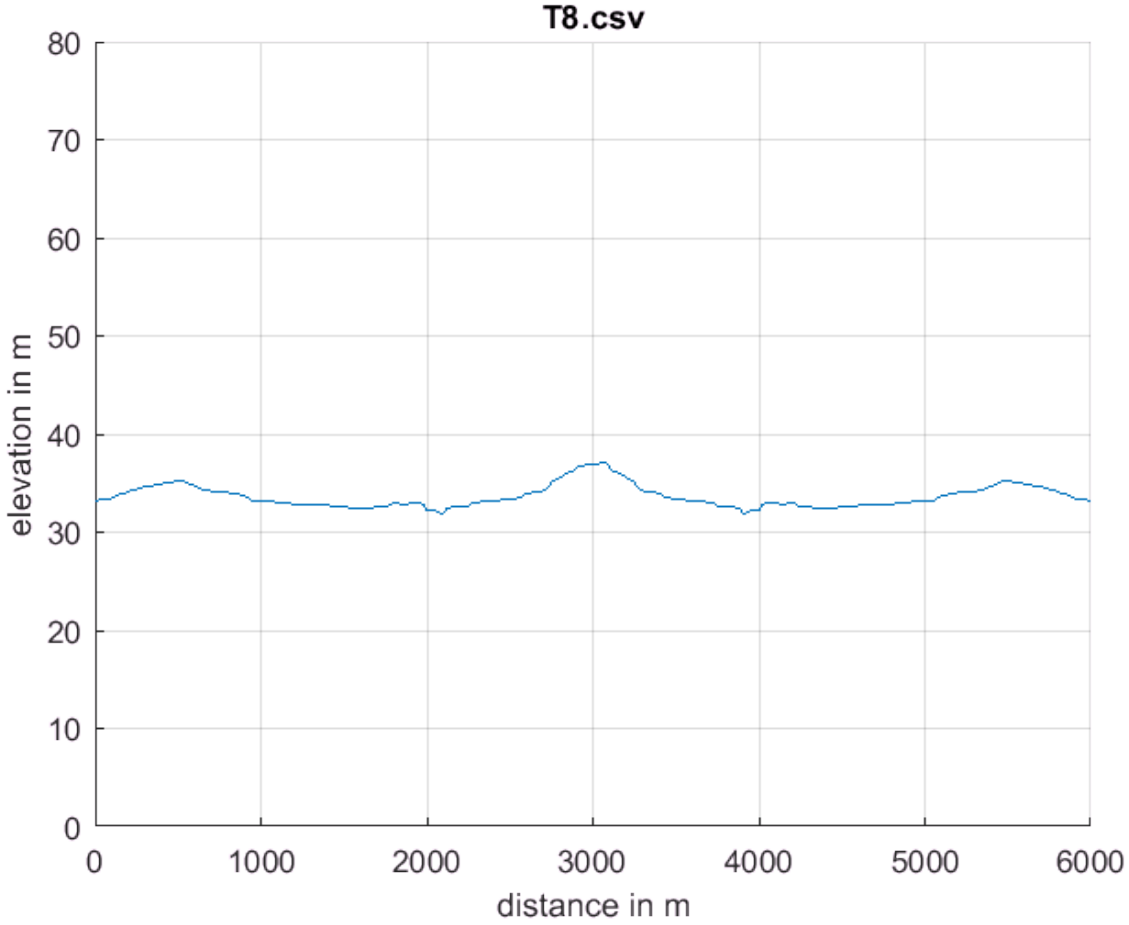
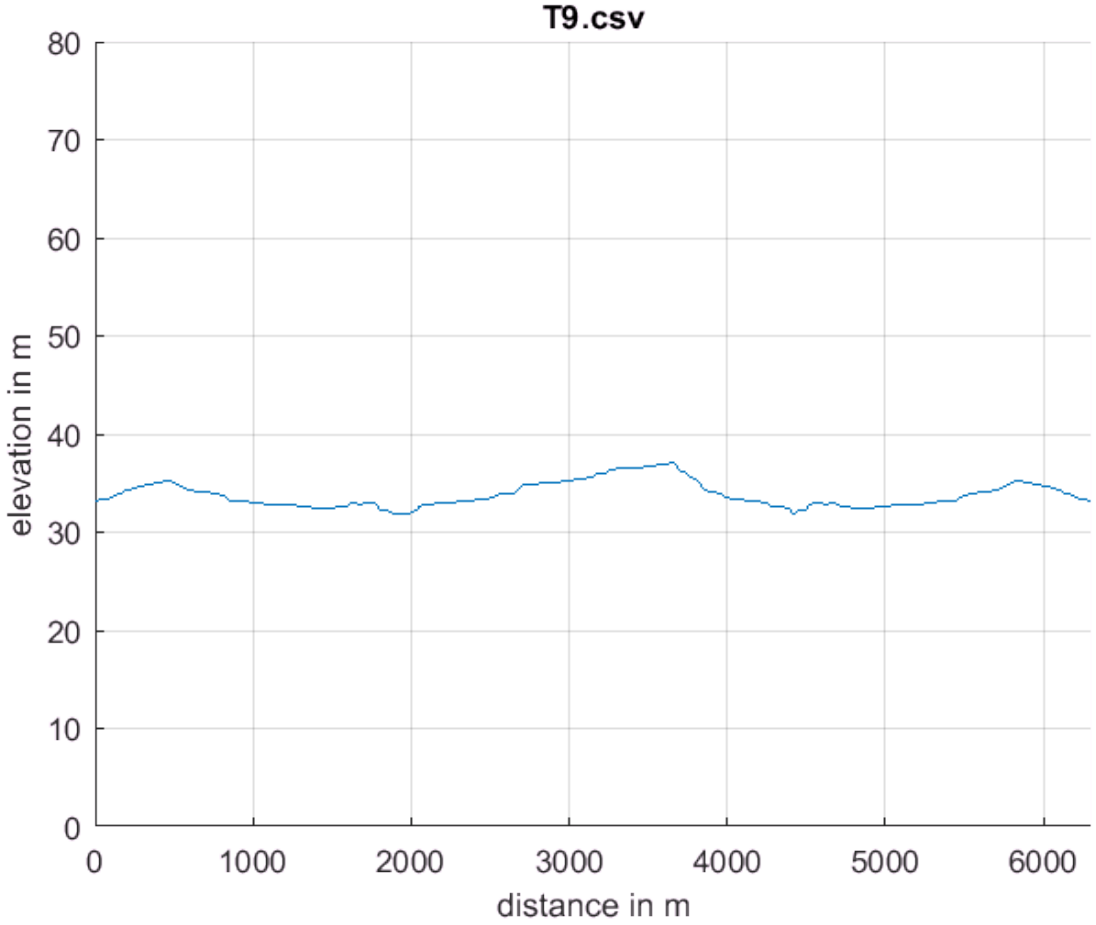
10
20
30
40
50
60
70
80
0
1000
2000
3000
4000
5000
6000
7000


T8.csv
80
70
60
50
40
30
20
10
0
elevation in m
0
1000
2000
3000
4000
5000
6000
distance in m


T9.csv
80
70
60
50
40
30
20
10
0
elevation in m
0
1000
2000
3000
4000
5000
6000
distance in m

```
%close all;
```