

Exercise 6 – Interpolation

At the end of this exercise, you should present the interpolated maps for ElectroMagnetic (EM) data collected at different stations with Geonics EM-34.

Download the file `felduebung2013.txt`

1. Use the routine “`plotinterpolation.m`” to plot the interpolated map for the data given (`test_uebung4.m`)
2. Plot the interpolation obtained for electrical conductivity measured (`felduebung2013.txt`) as a function of x- and y-coordinates.
 - a. For grids considering 50 elements in x- and y-directions
 - b. For grids considering 200 elements in x- and y-directions
 - c. Comment on the resulting maps using different number of elements for the construction of the grids
 - d. Use different interpolation methods available in matlab (nearest, linear, natural, cubic, v4)
 - e. Comment on the obtained result using different interpolation methods
3. Decide upon a number of elements (in x- and y-direction) and interpolation method, and plot the interpolated map for the height as a function of x- and y-coordinates
 - a. Is there any apparent correlation between the changes in the topography (height) and the patterns observed in the EM-data?