

## Flow over a hill

### **Exercise 1:**

Please display a vertical cross section of the given analytic solution for the flow over a bell shaped hill. With your implementation you should be able to easily change the relevant input parameters. We will use this solution in the next term to compare with the result of a numerical model.

You can use a software of your choice (e.g. Gnuplot, Matlab, Python; my solution is in gnuplot).

First, display the distortion of the stream lines (Eq A-2) and then the temperature and wind fields. Use the input parameters from Table A-1 and compare your wave length with the solution from Eq A-6.

*Please work in small groups.*

### **Material:**

`/data/share/lehre/unix/grawe/metmod1/Bergueberstroemung/Exercise`  
`/data/share/lehre/unix/grawe/metmod1/Bergueberstroemung/Literature`  
`/data/share/lehre/unix/grawe/metmod1/Bergueberstroemung/Solution`