This is the read me file, made for the data of the following MSc thesis: “Hydraulic load reduction as a function of depth in a filter layer consisting of logs” by Rubaij Bouman, R.M. (2018), a MSc thesis of the TU Delft.

This zip file is made of 2 maps:

- R: The data of the research
- Tn: Matlab files

R: The data of the research:

- gradientR07R08R09: calculated gradient for all timestep in experiment R07, R08, R09
- Bed_roughness: This is the raw data in which the roughness of the logs is determined.
- Vortices: The calculated time scale and length scale of the eddies in the free flow and inside the filter layer
- R01 – R10
    - t0: pictures before executing the experiments
    - t1 – t7:
        - ADV1: Raw data of the ADV1 device
        - ADV2: Raw data of the ADV2 device
        - Laser: Raw data of the laser.
        - Media: Pictures or video’s during the measurement
    - tend:
        - Media: pictures after executing the experiments
        - Laser: laser data of layer 1 to layer 3
    - ADV1: Filtered data of the ADV1 device for the experiment. These filtered data is made from matlab files which can be found in the map Tn.
    - ADV2: Filtered data for the ADV2 device for the experiment. These filtered data is made from matlab files which can be found in the map Tn.
    - Characteristics_flume_time_step: The hydraulic conditions of each time step, t1 – tn
    - Measured_level: The measured heights of the ADV devices
    - Settings: An overview of the experiment in excel

Tn, The matlab codes used for this thesis.

- Critical_velocity_base_layer: Calculation of the cricital velocity of the base layer
- Despiking_tooblox: toolbox for matlab for despiking the signal
- Erosion: Matlab scripts which transform the raw data from the laser into pictures for the report
- Hita-master: Used for the matlab code for calculating the vortices
- Log_roughnes: Matlab code for determining the log roughness
- MATLAB_MAP: Most important matlab map
    - Filter_data: filter the raw data of the ADV1 and ADV2
    - Raw_data: Transform the raw data obtained from the signal in real values
    - Turbulentie: consider the calculation inside and above the filter layer
        - Filter_layer: Calculations inside the filter layer
        - Free_flow: Calculation in the free flow (above the filter layer)
- Vortices: Matlab scripts regarding the eddies in the free flow and in the filter layer