Exercises for imc FAMOS I – Digital Course

- Block 2 -

Doc. Rev.: 1.2- 27.08.2025

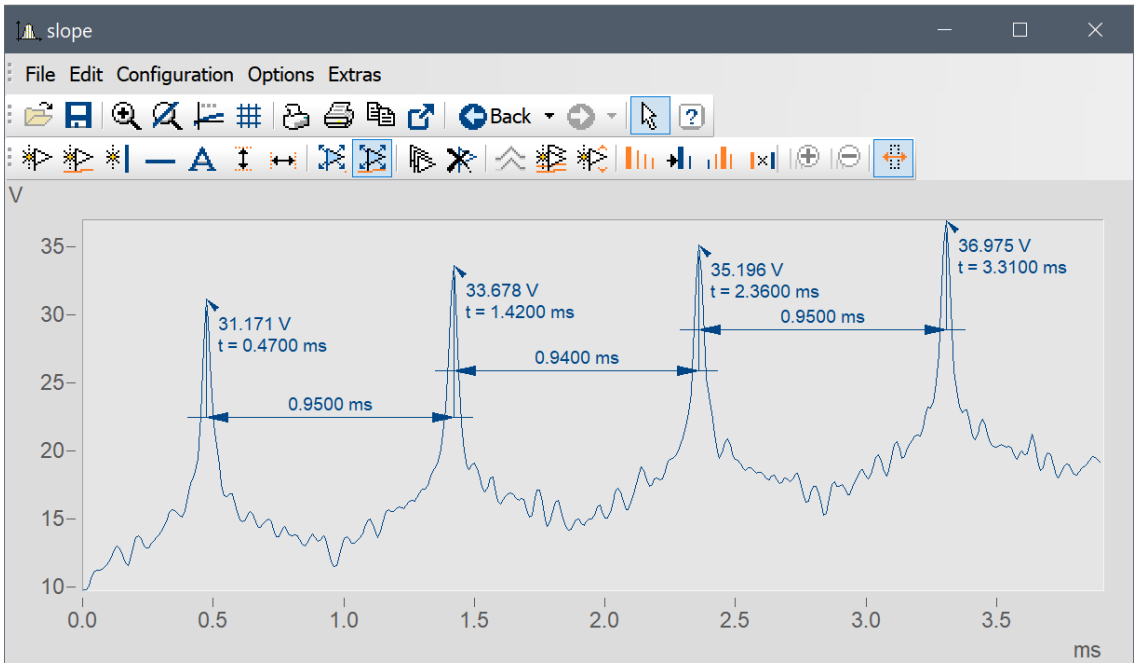
Exercise A

Exercise Objective:

With the help of markers, various characteristic values of a data set are to be determined graphically. In the exercise example, these are occurring peaks as well as their temporal distances to each other.

Result:

The result of the exercise is expected to look like this:



Exercise steps:

- Show the data set **Slope** from the sample data in a curve window and show the marker toolbar.
- To determine the peak heights, use the **min/max** markers step by step in appropriate zoomed representations and then delete the created **min** markers again.
- Specify the time points of the peaks by adjusting the text field of the created min/max markers with appropriate placeholders. The time points should appear in the second line below the peak heights and start with "t = ".
- Use dimension markers to determine the temporal peak distances. Use the created min/max markers as exact references for the length of the dimension lines.

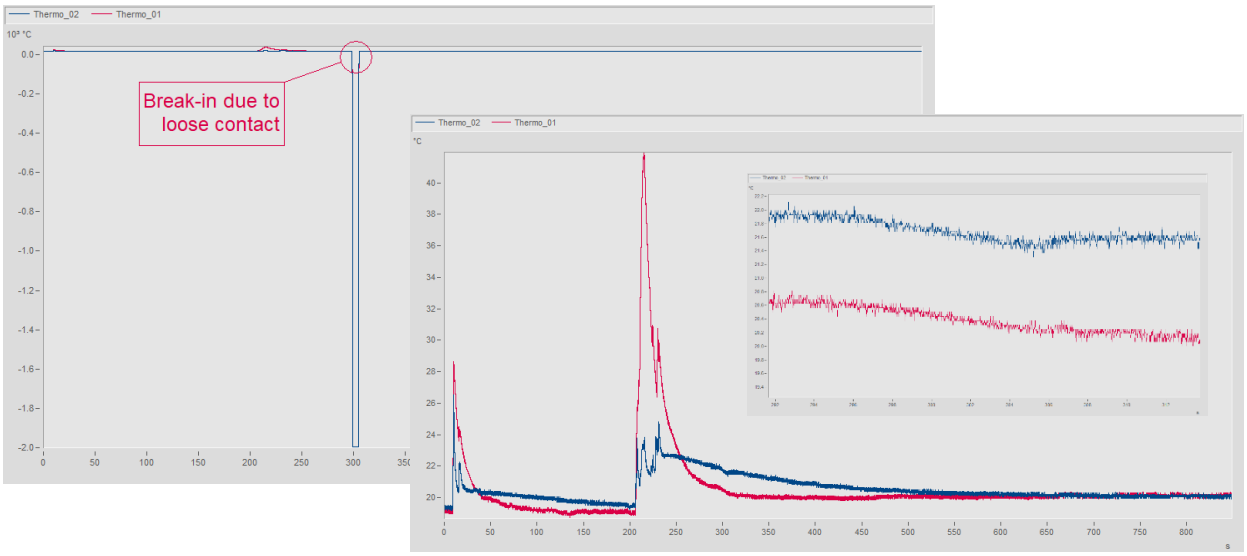
Exercise B

Exercise Objective:

A measurement data set is to be partially modified so that isolated irregularities are graphically eliminated. In the exercise example, a short loose contact in a temperature measurement is to be corrected.

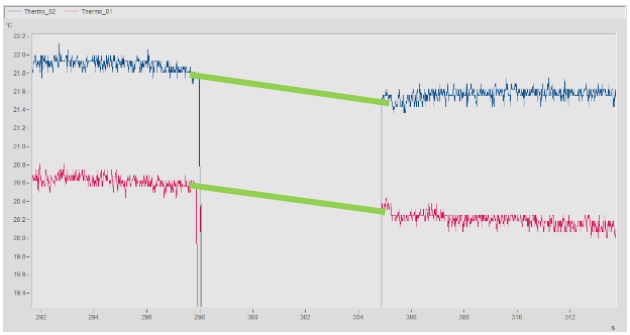
Result:

The rear image shows the original data set with a drop in temperature due to a loose contact. The front image shows the corrected data set, in the inlay the corrected area can be seen zoomed in again.



Exercise steps:

- Load the two data sets **Thermo_01** and **Thermo_02** from the file **Temp_with_Dropouts.dat** and show them in a curve window.
- Activate the measurement cursors and mark the area of the loose contact.
- With the function **Reprocessing signals…** in the context menu of the data display of the measuring cursor, the temperature dip is to be replaced by a linear connecting line (indicated by green lines).



- Subsequently, an artificial noise is to be added to visually adjust the signal curve and thus eliminate unnecessary discussions.

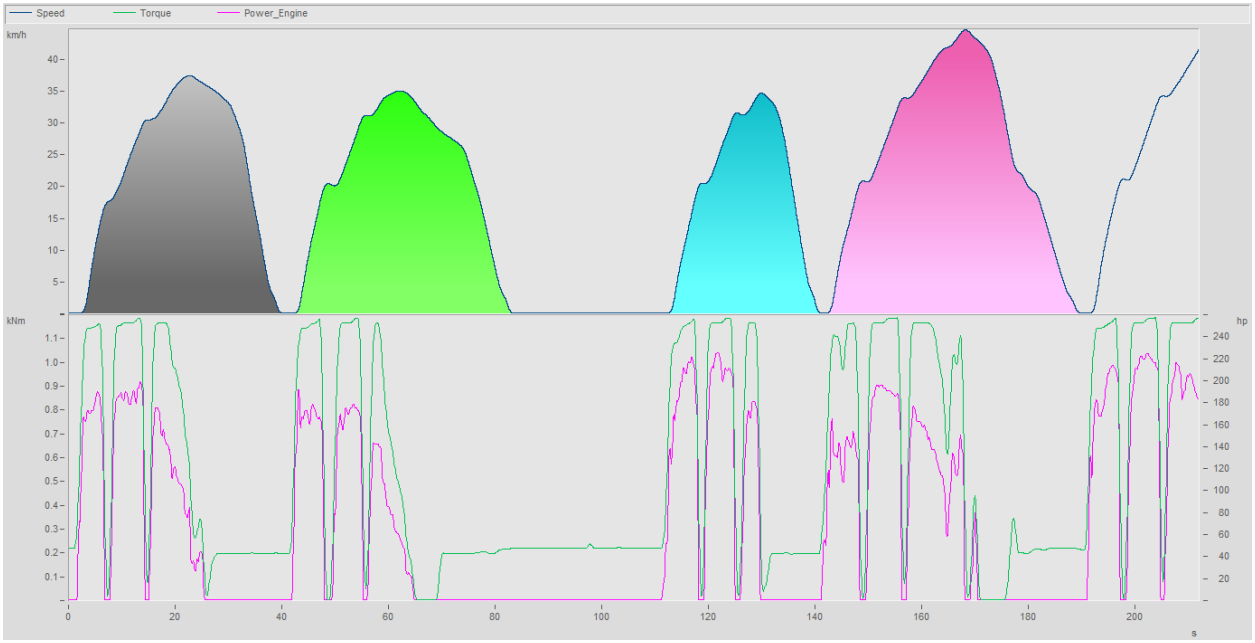
Exercise C

Exercise Objective:

Sections of a data set are to be cut out with graphical tools in order to be able to analyze them separately. In the exercise example, the individual acceleration and deceleration processes from a driving test are to be cut out and highlighted in different colors.

Result:

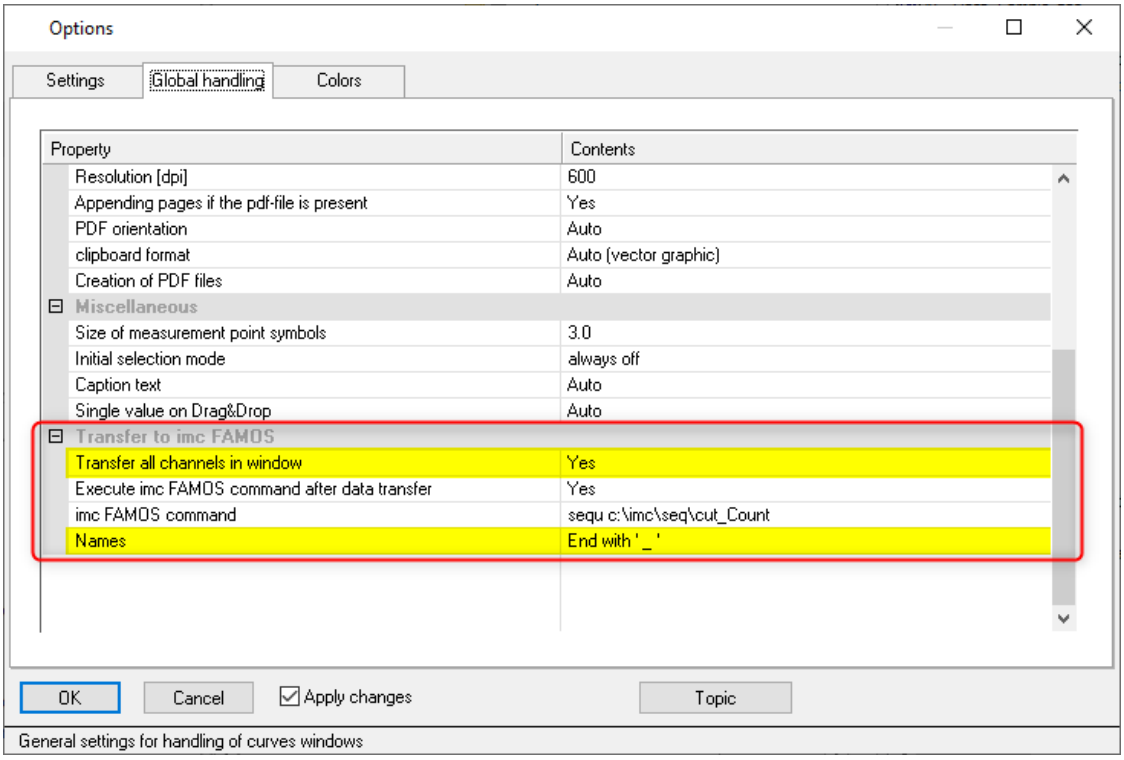
The result is expected to look something like this:



Exercise steps:

- Load the data set **Bustrip.dat** and show the data sets in a curve window. The channel **Speed** should have its own coordinate system, the other channels should be located on separate axes in the coordinate system below.
- Cut out four acceleration and deceleration processes using the measuring cursor. To do this, mark an area and select **Send Curve section to imc FAMOS** in the context menu of the data display of the measuring cursor. In this case, the first four sections from 0 to 200 seconds are used. Adjust the default settings of the curve window beforehand to ensure that the copied sections are given different names from the original and thus will not overwrite the original data sets.

- For renaming the sections after transfer, either do it manually or use the sequence from the download with the explanation from the training. The following image will help you configure the appropriate options.



- Finally, adjust the **Lines** options of the sections to fill the area with a color gradient.

