

# Exercises for imc FAMOS I – Digital Course

- Block 3 -

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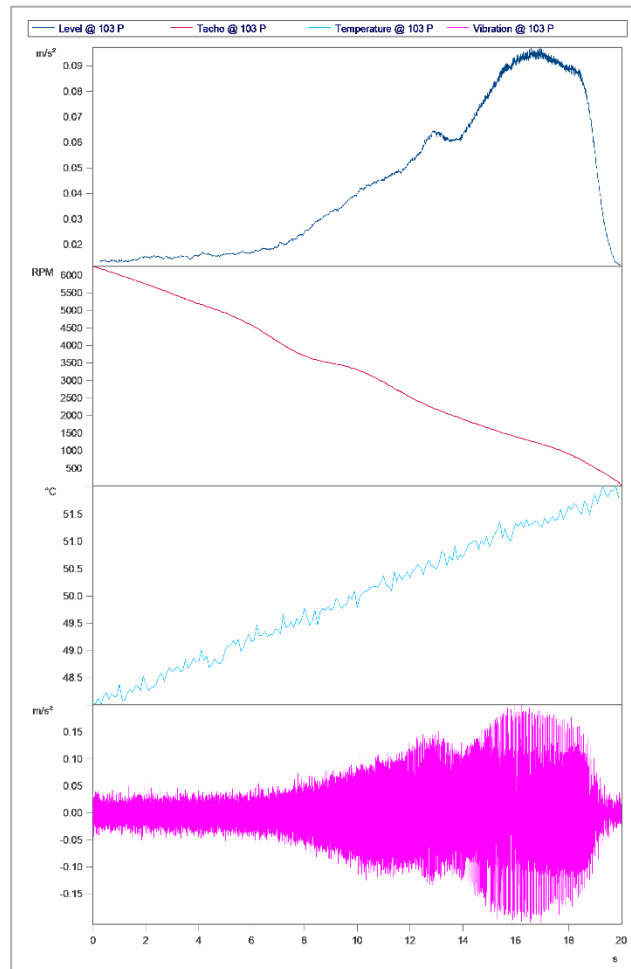
# Exercise A

## Exercise Objective:

An entire measurement series with recurring channel names is to be loaded and viewed simultaneously. The data sets are shown in a curve window and change depending on the selected measurement series.

## Result:

The result is expected to look something like the picture to the right.



## Exercise steps:

- Load the entire **Test** series from the download sample data sets with measurement reference. For this, the option for measurement association (@ sign) must be activated in the data browser.
- Show the individual channels of a measurement in a curve window on a **Report (portrait)** type panel. Each channel shall have its own coordinate system.
- The display options of the channels are to be adapted via the context menu in such a way that the channels receive a measurement reference. By selecting a measurement in the **Measurements** tab in the variable window, the display in the curve window changes accordingly.
- Select the measurement **103 P** and correct the disturbance in the velocity data set graphically with the **Modify values** option

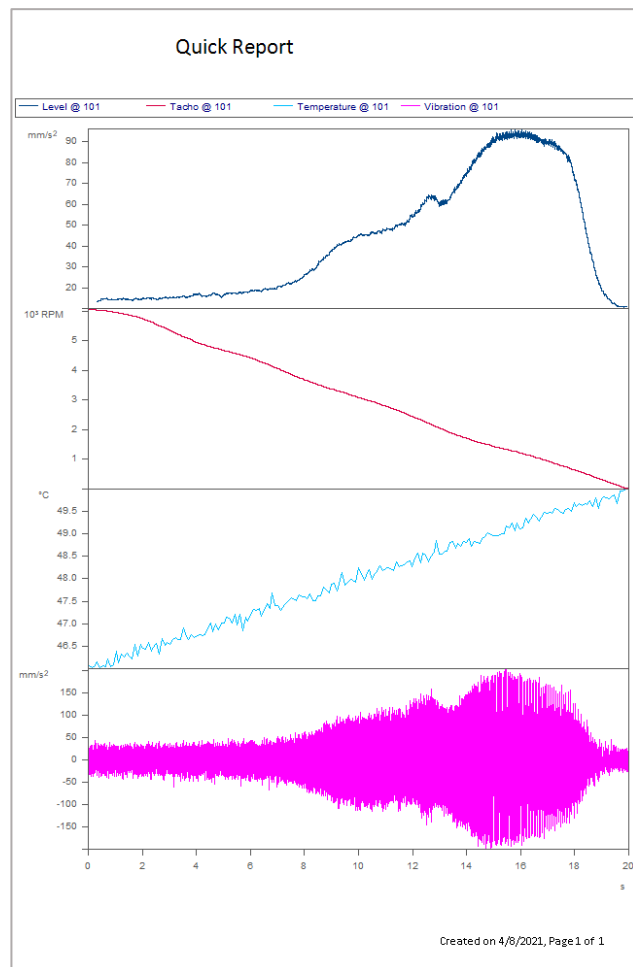
## Exercise B

### Exercise Objective:

A quick report is to be created with the help of a panel. In addition to a curve window, it should also contain further information about the displayed channels.

### Result:

The result is expected to look something like the picture to the right.



### Exercise steps:

- Load the measurement series and the created panel from Exercise A.
- A heading is to be inserted above the curve window as a title bar. Use a suitable widget (e.g. table or label) and configure it as desired.
- Below the curve window, the current date and a page number are to be inserted as a footer. To do this, use the placeholders in a label or table widget: **<SYSTEM.DATE>**, **<PAGE.NUMBER>** and/or **<PANEL.PAGECOUNT>**.

## Exercise C

### Exercise Objective:

This exercise shows how comparisons of serial measurements can be made in a simple way with the help of the panel. You will learn how to influence the naming of measurements on loading, how to display several measurements in parallel and how to handle measurements in FAMOS, e.g. to pin certain measurements as a reference.

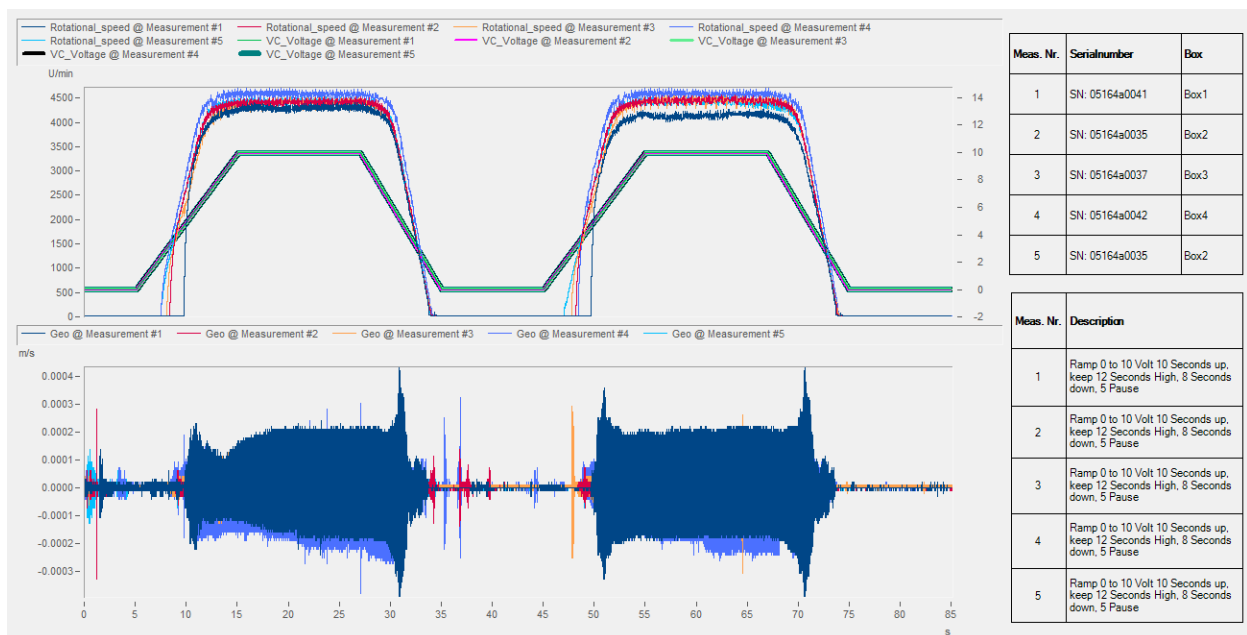
### Detailed information about the sample data in this exercise:

The measurements were performed on an electric motor that can be controlled with a control voltage of 0-10 volts. In addition to the speed, the vibration of the electric motor was recorded by a geophone standing on it. In addition, ambient temperatures and other sensors (glued strain gauges on a tuning fork and a displacement transducer) were also recorded for later training evaluations. The ensemble of motor and associated sensors is defined as a measurement box.

In addition to the measurement data, descriptive text variables are also stored in the measurements, which contain information such as the serial number of the motor, the name of the box and a description of the measurement.

### Result:

You get a dialog page that shows the speed, the control voltage and the vibration of the channel **Geo** for the numbered measurements. The additional information is displayed in two tables next to the curve window. By varying the measurement selection in the variable window, the contents on the panel are dynamically adjusted.



### Exercise steps:

- Load the measurements from the sample data in the **Serial\_Measurement** folder to FAMOS. To do this, activate the measurement assignment option and set the assignment rule manually to **<parent folder>**. Only this way the text information will be loaded correctly associated to the measurements.
- Switch to the **Measurements** tab in the variable list.
- Create a new panel (a dialog panel is used in the example).
- Add a curve window on the panel, that is populated with the measurement channels analogous to the result image.
  - 5 times each **Rotational\_speed**, **VC\_Voltage** and **Geo** with corresponding measurement assignments 1 to 5. **Rotational\_speed** and **VC\_Voltage** with their own y-axis each, **Geo** in it's own coordinate system.
  - The legend is to be configured for each coordinate system and the measurement assignment is to show the measurement number. Tip: **Legend** tab in **Configuration** -> **Display** menu.
- Create two tables on the panel (**Tables and Lists** widget category) to display the additional information. Configure the number of columns and rows of the tables accordingly and add the descriptive texts.
  - The first table is supposed to show the serial numbers as well as the names of the boxes for all 5 selected measurements. Link the variables **SerialNumber** and **Boxname** with correct measurement assignment to the corresponding cells.
  - The second table is supposed to show the additional description for all 5 measurements. To do this, link the **Description** variable with correct measurement assignment to the corresponding cells.
- Mark different measurements in the measurement view of the variable window and check if the links on the panel are assigned correctly. By clicking on the blue field with the displayed measurement number, measurements can be fixed, the field turns orange. If you select another measurement afterwards, the previous selection remains. By clicking on the orange field again, you can release the fixation.