



THE SLOW MOTION VIEW TOOL

The EICASLAB Slow Motion tool - typically used during the Rapid Control Prototyping phase - allows the offline repetition of experimental trials executed on field for advanced debugging and tuning purposes.

The Slow Motion tool is provided by the EICASLAB RTPC module.

SLOW MOTION OVERVIEW

Typically, during the execution of an experimental trial, only a limited number of variables of your control system may be monitored or accessible.

The Slow Motion technique is an advanced feature offered in the Rapid Control Prototyping phase that allows, step-by-step and variable by variable, the analysis of the control software performance during the experimental trials carried out on the actual plant.

During the execution of a Rapid Control Prototyping experimental trial, it is possible to require the activation of the Slow Motion Recording function, able to automatically record on the PC disk all the plant I/O and the host commands data sent to the controller, to be then processed with the Slow Motion tool.

Starting from the recorded data, the Slow Motion works like a "Moviola" and it is able to:

- process the plant I/O and the host commands data, recorded during the experimental trials (f.i. during the RCP process);
- run the same control code executed on field, allowing the analysis and debug (step-by-step and variable-by-variable) of the control software performance.

HOW TO CONFIGURE SLOW MOTION

When the *Rapid Control Prototyping* phase is selected in MASTER, SIMBUILDER automatically selects the variables necessary to perform the Slow Motion. However, the selected variables can be customised by adding or removing any of them in order to allow the analysis and the comparison of all variables of interest.

SLOW MOTION Highlights

- Offline repetition of experimental trials like a "Moviola"
- Step-by-step and variable-by-variable analysis of control software
- Advanced debugging and tuning of the same control code executed on field

Control Tuning



Slow Motion tool



HOW SLOW MOTION WORKS

The plant input computed by the controller, the plant output and the host commands sent to the controller are recorded during the experimental trials and then they can be processed by EICASLAB as follows:

- the recorded plant input and output variables are used in the Plant Area instead of the input and output variables obtained by the plant simulation;
- the recorded host commands are used in the *Control Mission Area* instead of the host command generated by the *Control Mission* function.

When the Slow Motion tool repeats offline the experimental trial, the control functions receive as inputs the recorded outputs of the actual plant and the recorded host commands instead of the simulated ones. Then, the recorded experimental trial performed by the actual plant controller is completely repeatable in EICASLAB (using the same control code used on field), with the difference that now the process can be performed in slow motion and, if useful, may be run step-by-step by using a debugger program. All the working variables of the control software can be recorded and then analyzed by means of the POST tool available in EICASLAB.

MANUAL & DOCUMENTATION

The Slow Motion provides the user with all the necessary support during the offline trials repetition and analysis:

- a specific chapter of the EICASLAB User Manual is devoted to illustrate the overall Slow Motion capabilities and help the user to make profit in using the EICASLAB software for the offline analysis of the RCP activity;
- the EICASLAB website can be directly accessed to get information, to contact us, to ask additional support for the Slow Motion tool or enjoy the advantages of the EICASLAB Consultancy services.

Our service support is dedicated to our Customers with the aim to guarantee them with the best assistance they need.



Welcome to EICASLAB Suite.
Welcome to Innovation!

