

ecCST

Adaptive Controller for your Application



What is ecCST?

ecCST is an adaptive control algorithm for any use case. It is a powerful tool for solving even highly complex feedback-control systems.

The controller structure and its respective parameters are determined at runtime.

Application Areas

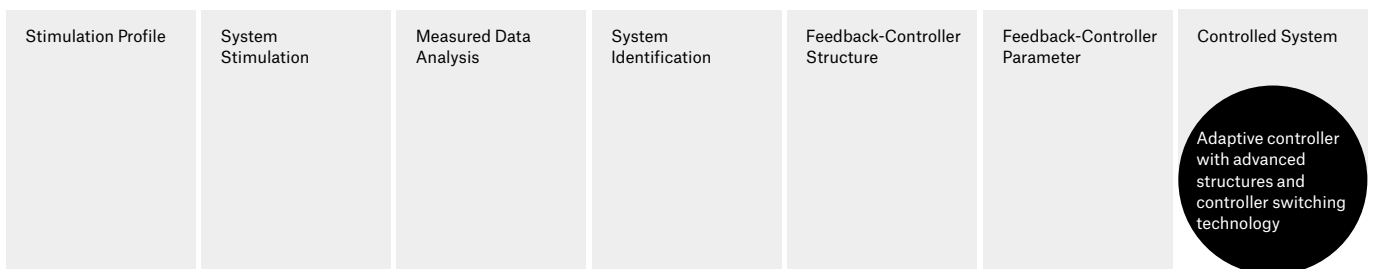
ecCST can be deployed for many control tasks across domains and industries. It can be easily integrated into existing software and systems.

Current applications include test bench control, process engineering, building automation, drivetrain and steering control in the automobile industry and much more.

Your Benefits

- + efficient control systems design, even for highly complex feedback-control systems.
- + supports the most common development environments, e.g. MathWorks™, dSPACE
- + start without concerns: Initial 12 months license fee includes maintenance and support.
- + maximum cost transparency for your projects: renewal can be chosen on a monthly basis after the initial phase.
- + self-determined licensing period: no automatic extension.
- + take a break — renewal until 12 months after expiry date.
- + flexible working in an agile development environment — no named user licenses for company-wide usage.

ecCST



ecCST Highlights

- + adapts controller structure according to system dynamics
- + independent from the quantity and type of process variables to be controlled
- + applicable for systems with multiple oscillations
- + automatic Controller Switching Technology (structure and parameters)
- + eliminates tracking errors for ramp setpoint signals

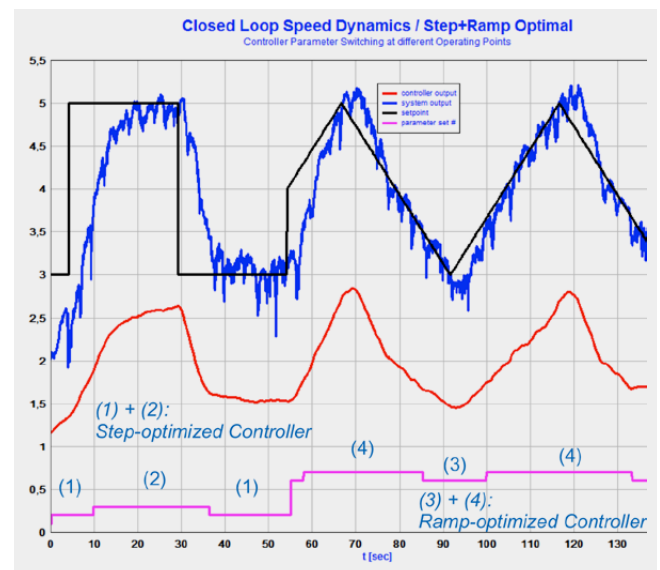
How to use ecCST

- + system identification and control design with ecICP
- + import controller parameters into ecCST and adjust it for various controllers and operating ranges
- + ecCST contains a library for simulation as well as object files for deployment in real-time environments
- + seamless integration of the library into a simulation environment running on Windows
- + seamless integration of the object files into a real-time environment running on the target system
- + add setpoints and controlled variables as input for the executable controller

System Requirements

- + parametrization tool ecICP is highly recommended
- + simulation environment is recommended, e.g. MathWorks™ Simulink®
- + requires real-time hardware with suitable development environment, e.g. dSPACE Real-time Interface (RTI). More by request.

Application example



RPM Control of an engine which is difficult to control due to nonlinearities and strong noise.

Only 1 PID-Controller is not sufficient to achieve acceptable control behavior, therefore ecICP has automatically calculated 4 different controllers which will be realized and switched by ecCST control algorithm.