



Control Loop Optimization

Road Simulators

Benefits

- » Improved data accuracy
- » Fewer iterations
- » No operator training required
- » System performance optimization

Every test system experiences the specimen degradation, system wear and temperature fluctuations that can impact control loop stability. Optimizing the control settings will make sure that the control loops more accurately maintain a desired position or force profile, even when system conditions change.

With Control Loop Optimization, MTS can analyze current system data and perform advanced tuning using enhanced algorithms without having to visit your lab. Your response data can be sent to an MTS engineer who will then run the calculations to make recommendations for the optimal control settings for your system.

When you've invested in a Spindle-Coupled Road Simulator System, you want to make sure the test data you generate is as accurate as possible. Let MTS help you optimize your controller settings to meet your system configuration.

Complex cross coupling creates control challenges and tuning trade-offs. Control loops can be sensitive to the effects of these other systems inputs. MTS Control Loop Optimization reduces the disturbances caused by non-linear cross-coupling between control loops. Minimizing the impact of these extraneous inputs results in fewer iterations, and accelerates your entire testing program.

be certain.

MTS can perform control loop tuning typically within two weeks, including a few hours of collaboration with you throughout this time period. The collaboration will be conducted through e-mail and phone contact to minimize potential interruption to your day and test schedule. You'll also be able to save the costs associated with an onsite consultation visit.

We'll start with a conversation to determine current controller and testing configuration. Then, to tune the system, you'll receive a drive configured for your system, and you'll send back a predefined set of response signals. The response signals are then analyzed and optimal FlexTest controller gains are sent back to you. The overall system performance is also reviewed from the response signal data, and potential problems are communicated to you.

Once the control loops are tuned, even less experienced operators will be able to run tests and be sure they are getting the accurate results they need. With MTS Control Loop Optimization, you can spend less time tuning and iterating and more time running valid tests.

Note: This remote tuning service is currently available for Road Simulators running RPC® Pro software.



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100-231-677 ControlLoopOpt Printed in U.S.A. 5/11