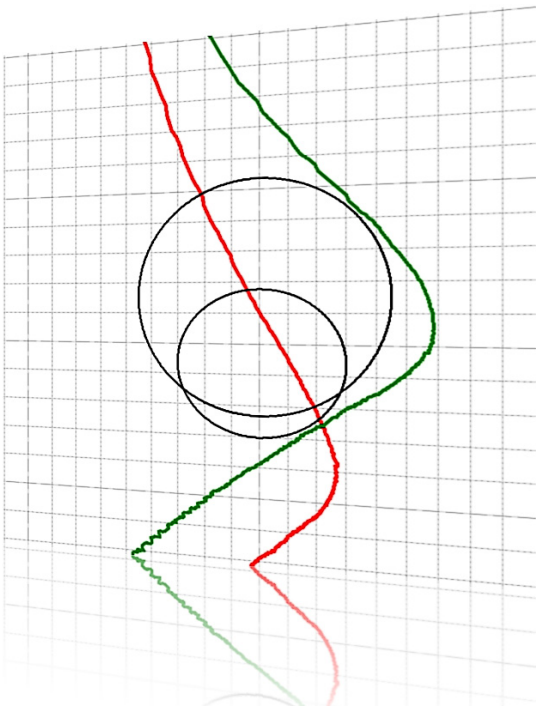
swiss made

INDEL
Indelligent Automation

Axis Tuner

Optimizing Axis Control



- Find optimum PID values
- Bode, Nyquist, Nichols plot
- Prediction based on new PID values

Indel servo drives are able to analyze transfer behaviors over the whole frequency spectrum. The transfer behavior can than be optimized in the Indel Axis Tuner.

Recording a Bode plot provides the basis for analysis and optimization. As the frequency analysis is performed by the Indel servo drives, no additional hardware is required.

Offline Tuning
Filters and PID parameters can be designed completely offline in the Indel Axis Tuner. Filter and PID parameters can be changed until the stability criteria according to Nichols or Nyquist are met. The Indel Axis Tuner then calculates the transfer function based on the Bode plot and the configured parameters and visualizes it in the plot. This allows quick analysis even of difficult systems with multiple resonances and helps finding stable control parameters.

Filter
To compensate for resonances and antiresonances, Indel drives support BiQuad filters which apply directly to the current control. Three different types of filters can be configured: Low-pass, notch, two-load. Additionally an observing speed filter according to Luenberger can be applied to the signal.