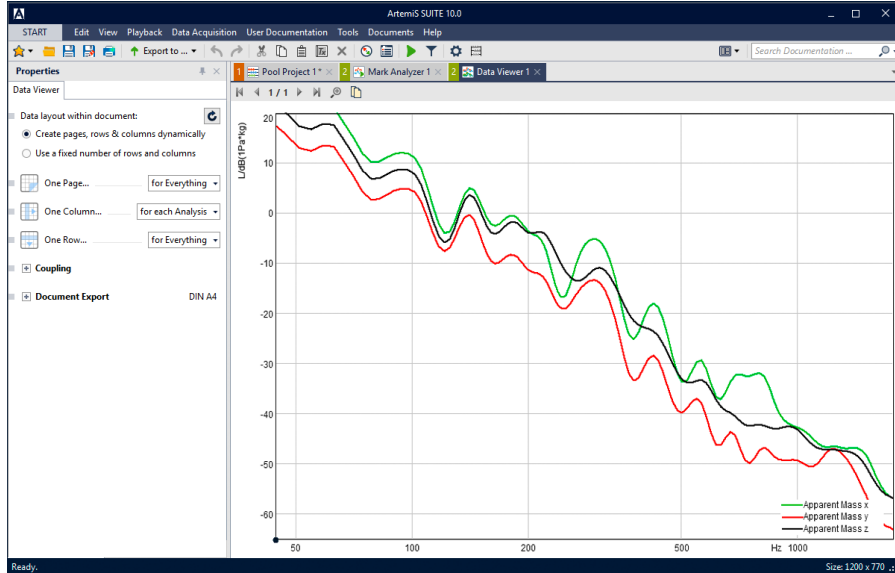


ArtemiS SUITE System Analysis Module (Code 5015)

Expansion module for the examination of dynamic system characteristics



Overview

An analysis of the signal paths can yield information about the dynamic system characteristics of a wide range of objects.

The System Analysis Module provides tools for system analysis: Transfer Function, Impulse Response, Coherence (partial and multiple Coherence for MIMO structural analysis), correlation analysis.

Features

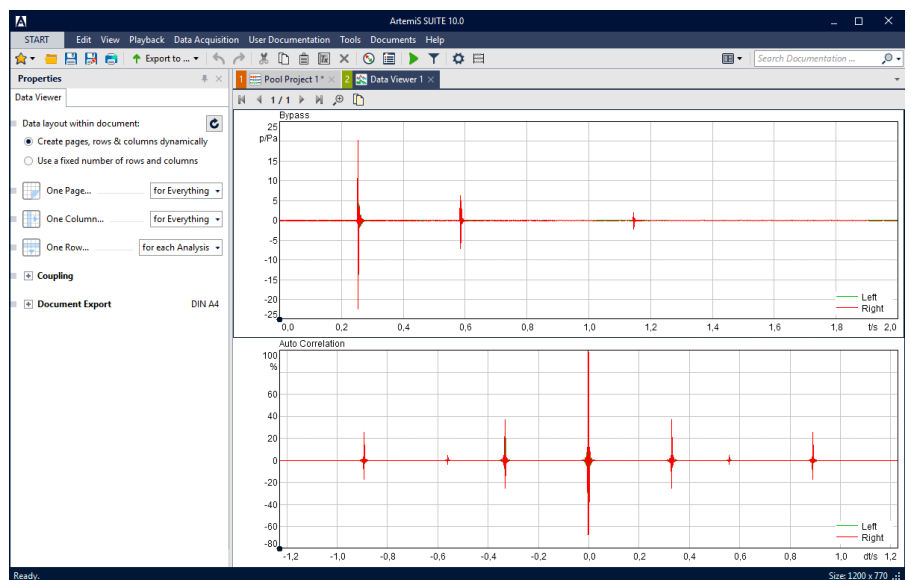
- Expansion module of ArtemiS SUITE for the examination of dynamic system characteristics
- Auto Correlation / Auto Correlation vs. Time / Auto Correlation vs. Band
- Auto Spectrum / Auto Spectrum vs. Time
- Coherence / Coherence vs. Time / Coherent Spectrum
- Cross Correlation / Cross Correlation vs. Time / Cross Correlation vs. Band
- Cross Spectrum / Cross Spectrum vs. Time
- Impulse Response / Impulse Response vs. Time
- Multiple Coherence / Multiple Coherent Spectrum
- Partial Coherence / Partial Coherent Spectrum
- Transfer Function / Transfer Function vs. Time

Requirements

- ArtemiS SUITE Basic Framework (Code 5000)
- ArtemiS SUITE Basic Analysis Module (Code 5001)

Scope of Supply

- License file
 - ArtemiS SUITE System Analysis Module (Code 5015)



Auto correlation of a noise with echo.

Technical Data

Transfer Function / Transfer Function vs. Time / Impulse Response / Impulse Response vs. Time

Reference Measurement: Reference signal selectable
Channel By Channel: Calculation of the input signal channel and the reference channel
Reference Channel Nbr: Channel containing the reference signal selectable
Spectrum Size: $2^8 - 2^{23}$
Window Function: Rectangle / Hanning / Hamming / Blackman / Bartlet / Kaiser-Bessel 8 - 16 / Flat-top / Gauss 8, 16, 32
Overlap: Selectable
Delay Compensation [ms]: Selectable
Transfer Function Method: H1 / H2
Smoothing: Off / Octave - 1/24 Octave (Intensity Averaging / dB Averaging)
Minimal Coherence [%]: Selectable
Coherence Frequency [Hz]: Selectable
Impulse Response Window: Off / Rectangle / Hanning/Rectangle / Hanning
Window Start [ms]: Selectable
Window Length [ms]: Selectable
Adapt Window Position: Selectable
Averaging Time [s]: Selectable
Max. Nbr of Time Values: Selectable
Step Size [RPM, ...]: Selectable

Coherence / Coherence vs. Time / Coherent Spectrum / Multiple Coherence / Multiple Coherent Spectrum / Partial Coherence / Partial Coherent Spectrum

Reference Measurement: Reference file selectable
Channel By Channel: Calculation of the input signal channel and the reference channel
Reference Channel Nbr: Channel containing the reference signal selectable
Spectrum Size: $2^8 - 2^{23}$
Window Function: Rectangle / Hanning / Hamming / Blackman / Bartlet / Kaiser-Bessel 8 - 16 / Flat-top / Gauss 8, 16, 32
Overlap: Selectable
Delay Compensation [ms]: Selectable
Averaging Time [s]: Selectable
Non Coherent: The non-coherent spectrum is calculated
Max. Nbr of Time Values: Selectable
Remove Channels: Selectable

Auto Correlation / Auto Correlation vs. Time / Auto Correlation vs. Band

Spectrum Size: $2^8 - 2^{23}$
Overlap: Selectable
Circular Correlation: Periodic signals / Pseudo-Noise
Envelope: The envelope of the function is displayed
Normalize: The signal power is normalized to the value 1
Bands: 1/3 Octave / Octave / Critical Bands
Frequency Range [Hz]: Selectable

Cross Spectrum / Cross Spectrum vs. Time

Reference Measurement: Reference signal selectable
Channel By Channel: Calculation of the input signal channel and the reference channel
Reference Channel Nbr: Channel containing the reference signal selectable
Spectrum Size: $2^8 - 2^{23}$
Window Function: Rectangle / Hanning / Hamming / Blackman / Bartlet / Kaiser-Bessel 8 - 16 / Flat-top / Gauss 8, 16, 32
Amplitude Scaling: RMS / Peak
Averaging Time [s]: Selectable
Max. Nbr of Time Values: Selectable

Cross Correlation / Cross Correlation vs. Time / Cross Correlation vs. Band

Reference Measurement: Reference signal selectable
Channel By Channel: Calculation of the input signal channel and the reference channel
Reference Channel Nbr: Channel containing the reference signal selectable
Spectrum Size: $2^8 - 2^{23}$
Overlap: Selectable
Bands: 1/3 Octave / Octave / Critical Bands
Frequency Range [Hz]: Selectable
Circular Correlation: Periodic signals / Pseudo-Noise
Envelope: The envelope of the function is displayed
Normalize: The signal power is normalized to the value 1

Auto Spectrum / Auto Spectrum vs. Time

Spectrum Size: $2^8 - 2^{23}$
Window Function: Rectangle / Hanning / Hamming / Blackman / Bartlet / Kaiser-Bessel 8 - 16 / Flat-top / Gauss 8, 16, 32
Overlap: Selectable
Phase Calculation: Selectable
Amplitude Scaling: RMS / Peak
Averaging Time [s]: Selectable
Max. Nbr of Time Values: Selectable

Available for all Analyses

Representation Settings: Individual scaling of the axes in the analysis result
Add Tolerance Scheme: Display of tolerance curves with tolerance test of the analysis result
Cuts: Extracting of 2D curves from the three dimensional spectrum (Cut Mode: First Abscissa / Second Abscissa / Free selectable cuts)

Single Values

Available for all 2D analyses as well as for 3D analyses that have been reduced to two-dimensional curves using cuts.
Only Single Values as Result: Selectable
Abscissa Range: Selectable
Options: Average / Sum / Min / Max / Percentile
Definition of threshold values for whose compliance the determined single values shall be tested for.
Quantity: Selectable
Unit: Selectable