



Alta Solutions

3 Day Training Event

Learn how to apply the technology and make your job easier.

Register now and bring your analyzer to this in-person Vibration Analysis Training Event held by Alta Solutions & The Owensboro Community and Technical College at the Work Force Solutions Innovation Lab.

Date: October 11-14, 2022 (Tuesday – Thursday)

Location: OCTC's Downtown Campus, 1501 Frederica Street, Owensboro, Kentucky – training/equipment demonstrations in OCTC's Innovation Lab - Room 15 and 17; hospitality services in Room 8

Training sessions are divided into topics ranging from basic to advanced training.

TOPICS OF DISCUSSION

Tuesday: October 11, 2022

Morning (8:00 AM - 12:00 AM)

Welcome and Session Goals Discussion with Q&A

New Technologies

Data Storage and Digital Recording

Into to Vibration Analysis Software and Hardware

Configuring Machine Train

Lunch (12:00 – 1:00 PM)

Afternoon (1:00 PM - 4:30 PM)

Basic Configuration (Attendees build configurations with presentation)

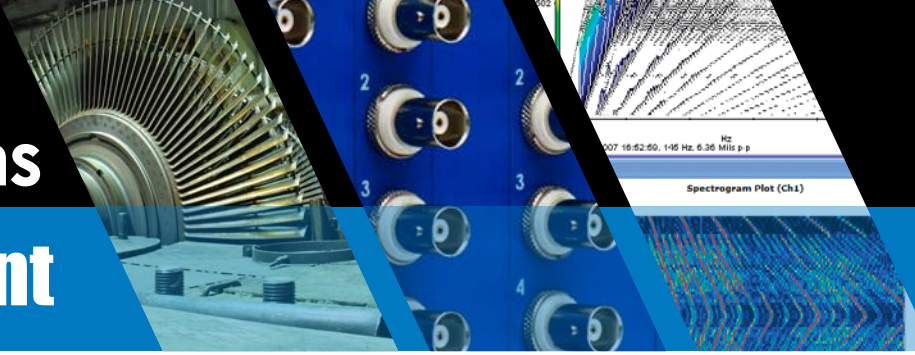
- Building Machine Train with Types of Plots
 - Time Plots
 - Types of vibration present
 - Spectrum Plots
 - Types of vibration present
 - Time Plots
 - Types of vibration present
 - Spectrum Plots
 - Types of vibration present
 - Vdc Voltage Gaps
 - Orientation based on rotation
 - Orbits
 - Orientation based on rotation
 - Relative
 - Seismic
 - Centerline plots
 - Orientation based on rotation
 - Phase
 - Tape versus Notch
 - Across machine
 - Bearing to bearing
 - Axial
 - Horizontal
 - Vertical





Alta Solutions

3 Day Training Event



TOPICS OF DISCUSSION

Wednesday: October 12, 2022

Morning (8:00 AM - 12:00 AM)

Hot Keys and Tool Bars

Timewave Plots

Magnitude Spectrum

Machine Trends

Advanced Software Configuration

Transient Plots Bode Polar – Runout Subtraction

- Data Collected by all Attendees from Rotor Kit
- Transient Data (Startup - Coastdown)
 - Overall
 - 1X & Phase
 - Time Plots
 - Spectrum Plots
 - Polar Plots
 - Orbits
 - Filtered versus Unfiltered
 - Relative
 - Seismic
- Bode Plots
 - Calculations
 - Amplification Factor (Raw versus
 - Corrected)
 - Percent Critical Damping (C/Cc)
 - Phase Angle Calculation
 - From phase plot
 - Calculated from
 - Frequency Ratio and C/Cc
- Nyquist Plots
 - Calculations
 - Phase Lag

Lunch (12:00 – 1:00 PM)

Afternoon (1:00 PM - 4:30 PM)

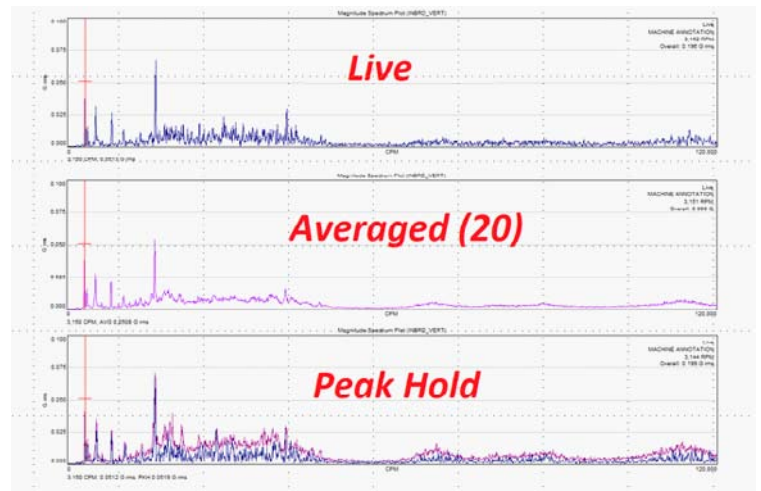
Machine Train Displays

Orbits and Full Spectrum

Waterfall Plots and Processing

- Tie into
 - Transient
 - Steady State Operation
 - VFD equipment

Using Averaging



Shaft Synchronous Sampling

- Bearing Defects
- Cross Talk

Understanding Demodulation

Magic Buttons



Alta Solutions

3 Day Training Event

TOPICS OF DISCUSSION

Thursday: October 13, 2022

Morning (8:00 AM - 12:00 AM)

Modal Analysis Primer

- Data Collected by all Attendees from Rotor Kit /
- Hammer & Sensor
- Impact Testing
- Natural Frequency Identification
 - Measurements
 - Displacement
 - Velocity
 - Acceleration
 - Calculations
 - Amplification Factor
 - Percent Critical Damping (C/Cc)
- Poor Man Modal
 - Real versus Imaginary
 - Depends on measurements

Lunch (12:00 – 1:00 PM)

Afternoon (1:00 PM - 4:30 PM)

Discussion of Applications discussed as they relate to:

- Motors
 - Shaft Faults
 - Sleeve Bearings
 - Rolling Element Bearings
 - Electrical Faults
 - Rotor Bar
 - Rotor Bar Passing
 - Slot / Coil Pass
 - VFD Faults
- Fans & Pumps
 - Shaft Faults
 - Sleeve Bearings
 - Rolling Element Bearings
 - Operating Faults
- Gearboxes
 - Shaft Faults
 - Sleeve Bearings
 - Rolling Element Bearings
 - Gearmesh
- Turbines
 - Synchronous
 - Subsynchronous
 - Thrust
 - Differential Expansion
 - Thrust

