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TRUSTED ACCURACY

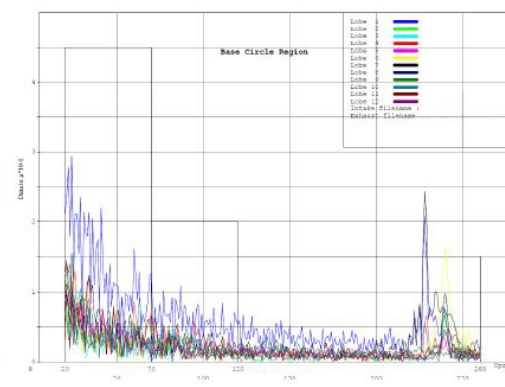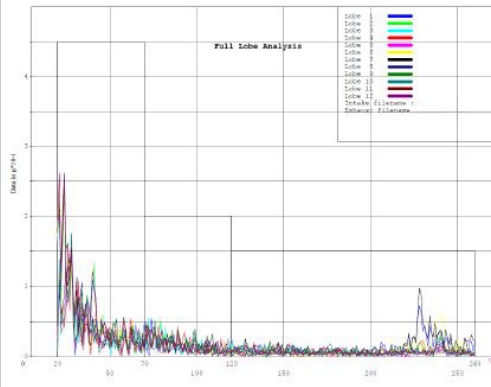# FFT Chatter Analysis Software

The FFT Chatter Analysis software provides actionable data that helps your organization improve your quality assurance process

Adcole FFT Chatter Analysis Software is a chatter evaluation solution that enables engineers to collect and analyze manufacturing data. This tool allows organizations to pinpoint grinder performance issues that occur while producing precision camshafts, and crankshafts. The software package includes features such as frequency analysis of error data over a specified UPR range using standard single or multi-region square tolerances, or a tolerance curve based on a formula or file. Chatter Analysis Software allows users to look at full 360° data set, or at a specific angular region within the error file.

Using FFT Chatter Analysis software, organizations can monitor and optimize their manufacturing process — thereby improving efficiency, reducing costs and maximizing grinder uptime.

Chatter is the undulating pattern of marks on a machined surface, usually caused from the vibration of the grinder. Adcole Chatter Analysis software detects high frequency vibrations in unfiltered lobe profile error, or journal roundness error, and determines the measured amplitude at each specific frequency or undulations per revolution (UPR). The report from this analysis is useful in troubleshooting and correcting manufacturing issues prior to parts being out of specification. This process monitoring tool helps to prevent out of specification components from getting into the supply chain.
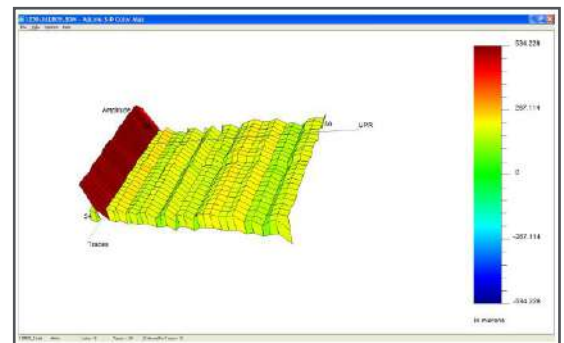
FFT Chatter Analysis Software provides highly accurate data and graphical output reports with the choice of outputs expressed as:

- Measured amplitude (µm or nm) to Undulations Per Revolution (UPR)

- Decibel to Undulations Per Revolution (UPR)

FFT CHATTER ANALYSIS SOFTWARE REQUIREMENTS

Operating System	32-Bit versions of Windows 10, Windows 7
.NET Framework	4.5
Monitor Resolution	1280 x 1024 minimum
Adcole Gages Supported	911, 1100, 1200-SH, 1200-DH, 1100-GX, 1200-LX, 1302, 1304, 1310, 1310-S

Gage software prior to 2018 requires a software upgrade

The 3D Color Mapping Software option allows users to obtain journal and lobe mapping data

Features

- Chatter analysis can be directly integrated with existing inspection sequences or be run as a separate post process inspection

- Reports Highest Chatter Amplitude and Frequency (UPR) of Occurrence per each defined region. Available outputs in both tabular data and graphical formats

- Amplitude output type selectable depending on customer needs (μm and dB outputs available)

- Multiple tolerance configurations available (single or multi-region box tolerance, formula-based or file based curved tolerance)

- Selectable angular range(s) for chatter inspection, from full 360° analysis to specified angular regions, such as base circle, ramps, and flanks or for detection of 'burst' chatter on journals

- Sliding window option enables users to Shift the Angular Interval of the Window — based on your requirements

- Analyzes Individual Lobes or Average Lobe FFT Chatter Analysis

Benefits

- Allows manufacturers to detect chatter on camshaft lobes, journals, and pin bearings to obtain insights about your manufacturing processes and allow troubleshooting of production or part quality issues

- Provides actionable data that helps your organization enhance your manufacturing process, find manufacturing efficiencies and improve profitability

- Offers multiple chatter analysis methods and tolerance types, providing a comprehensive analysis tool

- Provides clear outputs in both tabular data and graphical format

- Can be integrated with existing inspection sequences or as a stand-alone post process inspection

- Available for both audit and inline Adcole gage models

FFT Chatter Analysis Software	Options	Outputs	Tools
FFT Chatter Analysis	X		
80% Method	X		
Over Specific Angular Region on a Lobe			X
90 Degree Quandrant Method - Crankshafts			X
Amplitude		X	
dB Output		X	
Two level tolerance option	X		
Journal and Lobe Mapping (3D Color Mapping Software)			X

Adcole Machine Support

Adcole software support is provided by an expert software engineering team that is backed by 50 years of industry experience and ISO 9000:2015 annual certification. Software support, software upgrade services, custom software services and training are offered to our global customer base. Regular email and phone support is available 8 AM – 6 PM EST.