

Digitex Observer

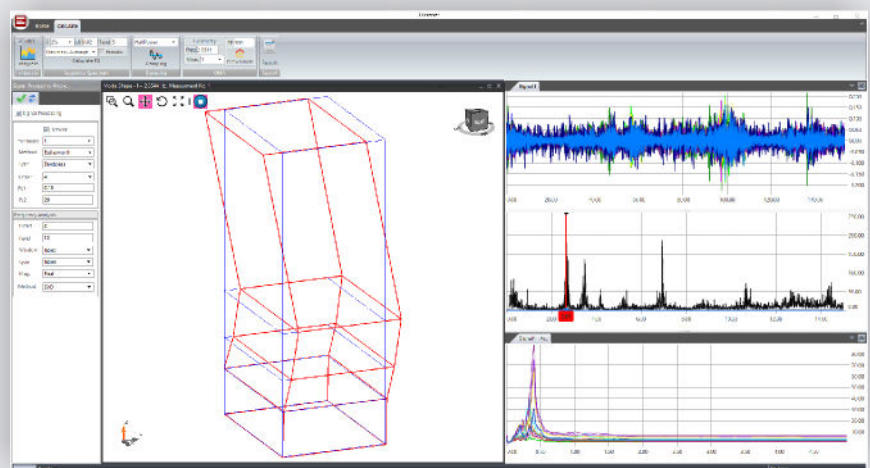
Advanced Data Analysis Suite

Key features:

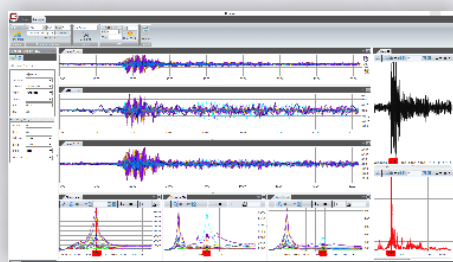
- Attractive and user-friendly interface
- Highly customizable graphical interface for easier browsing through signals and processed data
- Easy to use – follows simple logical pattern for data analysis
- Unlimited number of channels and duration
- Simple import of measurement files in ASCII format (compatible with other measurement systems)
- Signal Processing and filtering in time domain (Butterworth, Chebyshev, Lowpass, Bandpass, Highpass)
- Decimation, averaging, corrected and uncorrected acceleration on all channels by removing the DC offset.
- Spectrogram and Frequency Analysis (FFT, PS, SVD, PSD)
- Response Spectrum Analysis (Newmark-Average, Newmark-Linear, Wilson-Theta, Duhamel)
- Damping calculation for given frequency
- Operational Modal Analysis (OMA) for determining basic modal parameters (Natural frequencies, modes, shape)
- 3D animation of different modal shapes for selected frequency
- Supports simple geometry file for defining the structure's measurements points and direction.
- Advanced Reporting with all processed data so a single PDF file format.

Digitex's Observer - Powerful data analysis software everyone can use

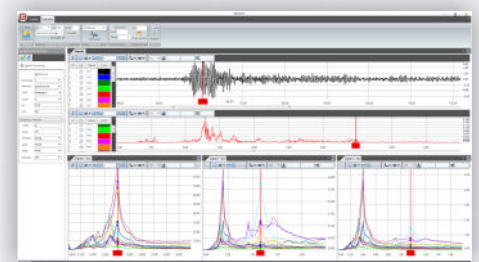
Observer Data Analysis Suite is a comprehensive tool for advanced analysis and post-processing of the data obtained with Digitex Systems units for permanent structural monitoring or Ambient Vibration Measurements. Observer Data Analysis Suite provides wide range of powerful signal analysis tools that help the engineers to understand the structures behaviour. Besides the standard processing techniques like time domain analysis, filtering, frequency domain analysis (FFT, PS, PST, SVD), time domain integration (velocity and displacement) Observer also offers advanced features like calculating the Response Spectrum (using different calculation methods), damping ratio for selected channel and frequency and Operational Modal Analysis (OMA) for determining the dynamic characteristics of the structure. Observer Data Analysis Suite also offers animation feature for visualization of the structure's behaviour in 3D at different frequencies for better understanding the natural frequencies and mode shapes of the structure. Advanced reporting feature of the Observer Data Analysis Suite can be used for sharing the structural behaviour of the structure and additional updating and correlating of the Finite Element (FE) model of the structure, design verification and determining the potential problems during and after the construction.



Operational Modal Analysis (OMA)



Spectrogram and Frequency Analysis

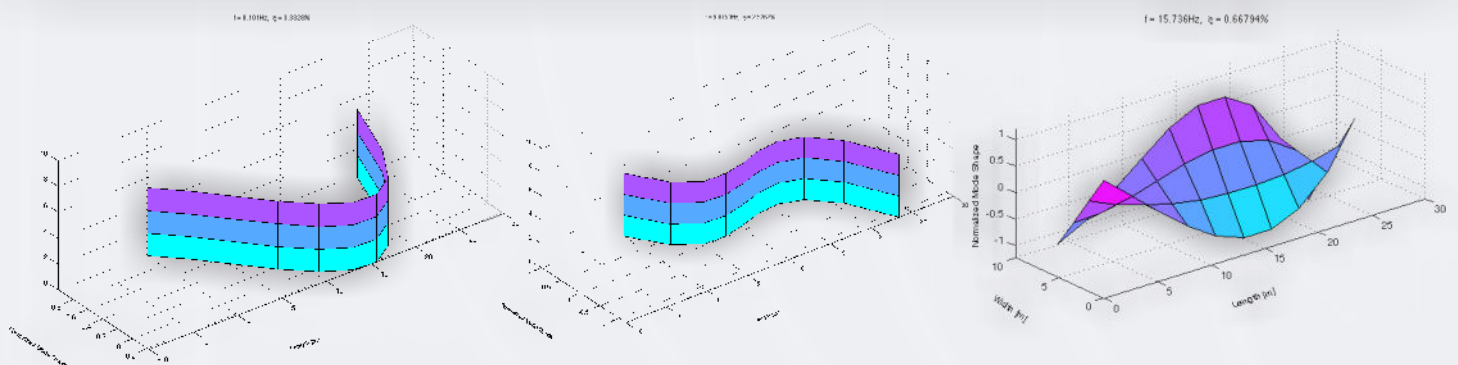
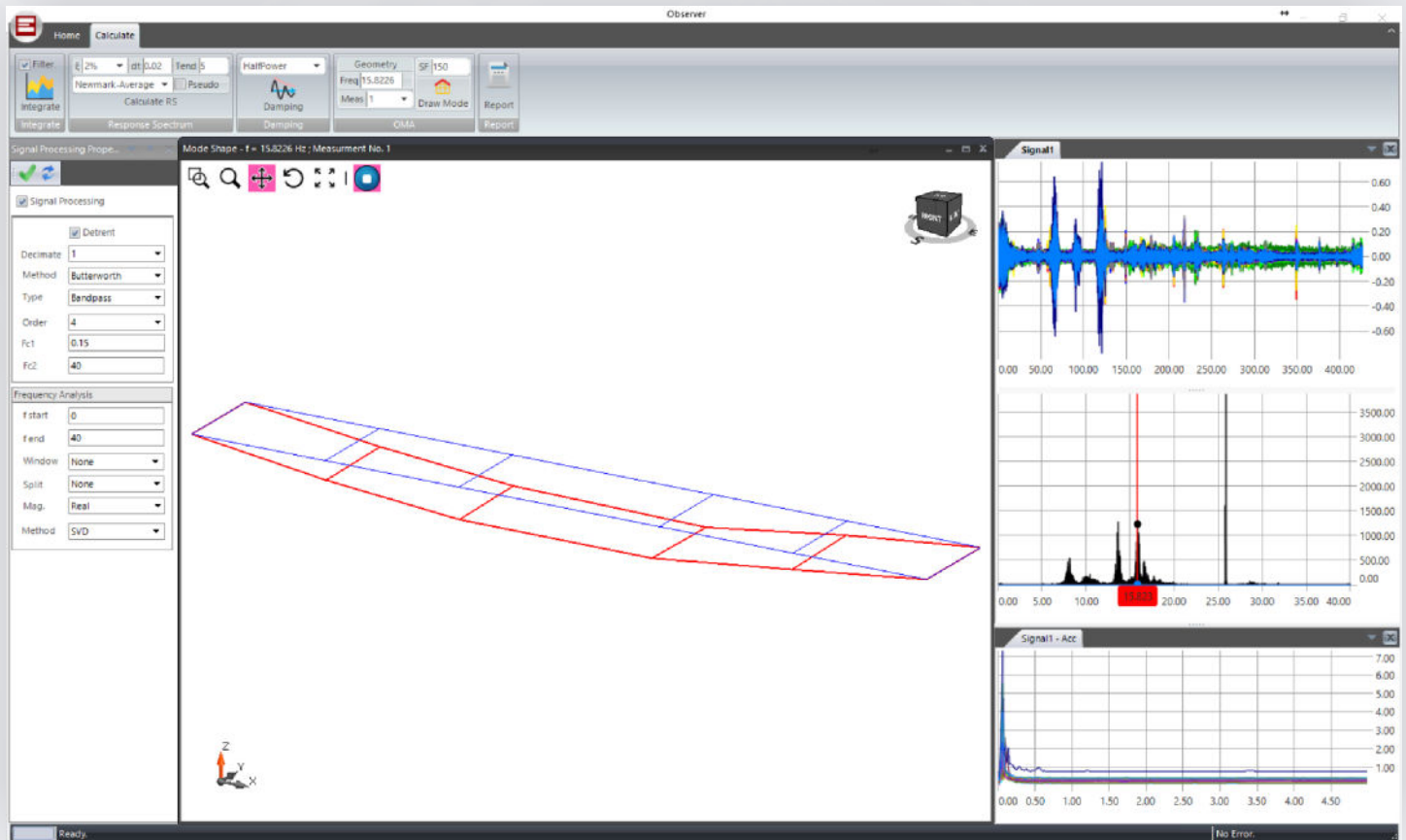


Signal Processing and Filtering

Identify modal parameters of a structure with Operational Modal Analysis (OMA)

Operational modal analysis (OMA) and its applications in structural health monitoring (SHM) have experienced significant efforts in the last decade. Observer contains methods able to provide, eventually in a fully automated way, accurate estimates of the modal parameters from structural response. In fact, while visual inspections, typically in combination with destructive and non-destructive investigations on selected portions of the structure, are still involved using our advanced software for analysis in combination with Sentry System SHM system is much better choice. Among the developed approaches, modal-based damage detection is probably one of the most popular for SHM of civil structures. Our recent developments in the field of OMA, including in particular several robust automated OMA algorithms, make modal-based SHM an attractive and fairly mature technology.

Observer can instantly give you the modes in terms of mode shape, natural frequency and damping ratio.



About Digitex

Digitex is a company specialized in design and development of real time structural health monitoring systems for a variety of industries and applications including: bridges, tall buildings, campuses, windmills, oil rigs and more. Digitex's innovative solution for ambient vibration measurements and quick health assessment of structures is jointly developed and validated with our partners and advisors from the Universities. When properly configured, the Digitex system is capable of measuring and responding to both natural and man-made events such as: earthquakes, wind, explosions and accidental heavy impacts.

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