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StrobeCAM | Visual Vibration Analysis

High speed events in slow motion

The **StrobeCAM** allows the slow motion visualization of fast periodic movements like vibrations and rotations for example on a shaker, on the engine test bench, on inaccessible places or on miniature objects. The StrobeCAM is a uncomplicated and inexpensive alternative to highspeed cameras and offers a wide range of possibilities which goes far beyond the visual observation of a strobe light.
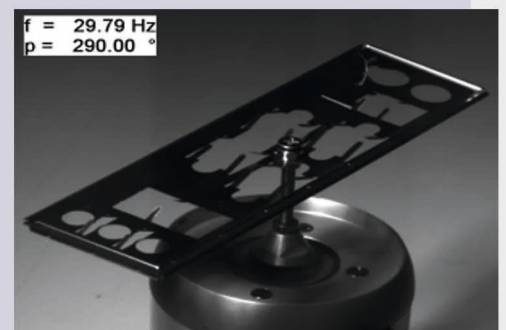
- Visualisation in slow-motion
- Integrated recording of video´s
- Quantitative measurements though motion tracking/ image analysis
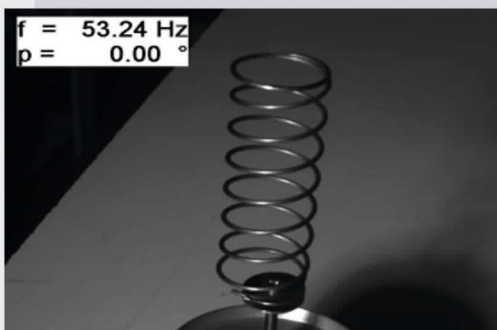

Vibration of a spring
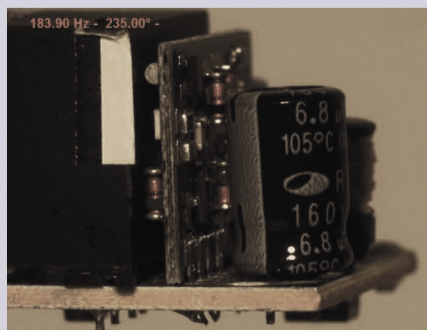
Vibration of an PCB board

Deformation of a panel

Applications

- Vibration test and vibration analysis
- Visualization, recording and documentation of component movements
- Measurement of frequency response curve
- Determination of the resonance frequency
- Non contact inspection
- Environmental test / transportation test
- Cyclic test / rotating objects
- Fartigue test
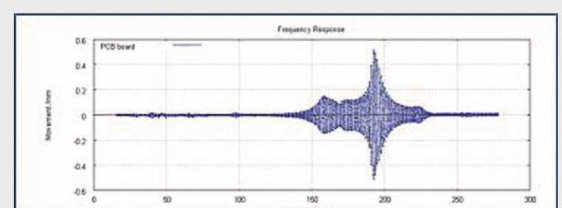
Vibration measurement / resonance curve

Benefits

- Realtime analysis module
- High resolution cameras show details of objects
- Low cost alternative to highspeed cameras
- Constant illumination (no stroboscopic lamp)
- Integrated recording of videos and documentation
- 100% compatible to shakers of B&K, LDS, Tira, IMV etc.
- Visualization in slow motion

Functional principle

The **StrobeCAM** controls precisely the cameras exposure moment relative to the periodic process. A constant LED illumination is used. The object movement gets frozen due to the short exposure time (1µs) which is comparable to the illumination duration of a strobe light. The stroboscopic camera synchronization is done by a microprocessor controlled trigger module (PhaseTriggerLS) and is based on the realtime analysis of the input signal. The origin of the input signals can be a frequency generator, shaker, microphone or an accelleration sensor.

Upgrade modules

- With an optional real time image analysis module resonance curves and resonance frequencies can be determined.
- The **LIMtrack** motion tracking tool is used to measure quantitative displacements and resonance curves
- In combination with our digital image correlation technique DIC the 3D displacements and modeshapes are measured fullfield.

Technical Specifikations

Suitable for	Periodic events, vibrations, rotations
Frequency	0,01 Hz to 50 kHz
Signal input for synchronisation	Analogue or TTL
Camera resolution	0.3 to 29.0 MPixel, color or monochrome
Lens adapter for	Zoom lense, macro lens, endoscope
Compatible to shakers of	B&K, LDS, Tira, IMV etc.
Computer	Laptop or desktop PC
Field of view	1mm² to 1m²

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