



Workshop: UHF-120 - Ultra High Frequency Laser Doppler Vibrometer for Measurements up to 1.2GHz

I am pleased to invite you to the latest in a series of workshops on **Non-Contact Vibration measurement using Laser Doppler Vibrometry for Ultra High Frequencies 1.2GHz.**

Taking place at:

- Tuesday 13th April at **Photon Science Institute, University of Cambridge, UK**
- Thursday 15th April at the **National Physical Laboratory, Teddington, UK**
- Tuesday 20th April at the **University of Birmingham, UK**
- Thursday 22nd April at **Loughborough University, UK**
- Wednesday 28th April at the **University of Manchester, UK**
- Friday 30th April at **Strathclyde University, Glasgow, UK**

These workshops aim to educate and demonstrate the **New Polytec UHF-120 instrument.** The workshop will provide information, together with practical demonstrations on Ultra High Frequency Measurements.

Applications Areas of Interest

Surface Acoustic Waves (SAW), RF MEMS, Crystal Oscillators, Ceramic Resonators, Timing Devices, Intermediate Frequency (IF), Thin Films, Thickness Expansion Modes, Bleustein-Gulyaev or BG-wave, Shear Horizontal surface Wave (SH Wave).

Investigating the dynamics of micro-components, such as MEMS (Micro-Electro-Mechanical System) is an important task, both for design verification during development and also for routine quality control measurements, e.g. on wafer level components. Non-contact Laser Doppler vibrometry optical measurement techniques have become an indispensable tool for such characterization - it non-reactively provides the entire frequency range split into phases as well as allowing analysis of transients and decay phases in the time domain.

Until now, measurements have been limited to the frequency spectrum up to approx. 30 MHz and to velocities of up to 10m/s. With its new innovative design **UHF-120 Laser Doppler Vibrometer**, Polytec has extended the frequency range to 1.2GHz and the velocity range to more than 100m/s.

The new Polytec measurement system is thus ideal for examining high frequency RF-MEMS and ultrasonic transducers, with high precision. Due to the small focal spot size of the laser beam, even tiny structures such as NEMS or systems with short acoustic wavelengths, such as SAWs, can be characterized with high lateral resolution. The ability to resolve high velocities now means that it is also possible to characterize high performance ultrasonic transducers.

The **UHF-120 Laser Doppler Vibrometer** is provided with a high stability test stand and platform, or can be integrated into wafer probe stations (including vacuum probe stations).

Additional Information: www.polytec-ltd.co.uk/eur/158_426.asp

Common Agenda

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| 9:30 | Welcome |
| 10:00 | Principle of operation UHF-120. |
| 11:00 | Instrument demonstration. The sample we can demonstrate is a nice SAW filter. The SAW device is already connected with BNC Cable – so I can perform a scanning measurement. When measuring this device we should see a nice surface wave running through the SAW. (The SAW has to be excited with our “UHF-Generator – SMBV100A” from 158 to 162 MHZ.) |
| 12:00 | Hands on session, sample measurements, questions and answers |

Attend if you:

- Interested in ultra high frequency devices.
- Have an interest in the latest micro-nano technology Non Destructive Testing (NDT) methods.
- Are already a Vibrometry user and want to learn more!

Places are limited and you must register to attend an event.

To reserve your place or to request further information, simply contact **Joe Armstrong** on **01585 711670** or email joe.armstrong@polytec-ltd.co.uk with your contact details.

We look forward to seeing you.

Best regards

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