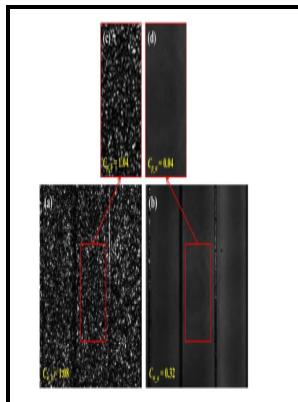


Holographic and electronic speckle pattern interferometry applied to the measurement of static and dynamic mechanical properties of elastomers

-- Interferometric dynamic measurement: techniques based on high



Description: -

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Interferometric dynamic measurement: techniques based on high

The developed negatives are then digitized by a CCD camera into an image processing system

Holographic Interferometry: From History to Modern Applications

In 2007, Fu et al. Scheme of system for holographic image recording A and reproduction B.

A Combination of a 3 Step Temporal Phase Algorithm and a High Speed Interferometer System for Dynamic Profile Measurements

An out-of-plane sensitive electronic speckle pattern interferometer ESPI using holographic optical elements HOEs for studying rotations and vibrations is presented.

Interferometric dynamic measurement: techniques based on high

Figures 13 a and 13 b show the schematic layout of a 4-point LDV system and its optical design. To reach the 12 fringe pattern, we start from any intensity pattern of intensity at any time, called I 1, and then the subsequent intensity is subtracted from it, then, the following intensity pattern, I 2 is selected and the subsequent intensity is subtracted from it, same procedure keeps doing until cover the full cycle of vibration according to eq.

Dynamic holographic

However, most engineering applications do not satisfy these requirements. Taking advantage of using a high speed system, it is possible to choose the fringe pattern with the maximum information about the mechanical deformation of the plate due to the sinusoidal vibration.

Holographic Interferometry: From History to Modern Applications

Hence, it is only suitable to measure steady-state or well-characterized vibrations. One of the most important considerations of this technique is that the measurement can be started at any time; it is only needed to select an intensity pattern and make a subtraction of the following consecutive intensity patterns to it. This method increases the spatial measurement points with the cost of sacrificing the measurement range in the temporal domain.

Interferometric dynamic measurement: techniques based on high

Undiffracted light passing through the RHOE serves to illuminate the object. Areas of high strain are expected to indicate the ultimate location of failure.

Dynamic holographic

The ESPSI systems with photopolymer holographic gratings are simple and compact. Temporal phase measurement techniques have been used to detect the phase for the study of the complete deformation evolution in static and dynamic events.

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