

Specifically, we propose a speckle imaging model that consists of a lightweight encoder-decoder architecture and a weighted loss function, enabling high-fidelity image transmission through ...

When light passes through a multimode fiber, two-dimensional random intensity patterns are formed due to complex interference within the fiber. The extreme sensitivity of speckle patterns to ...

Fiber specklegram sensors (FSS) are a kind of sensor based on the intermodal interference of multimode optical fibers (MMFs) . When coherent light is incident into a multimode ...

Taking advantage of the kaleidoscopic memory effect in square-core fibers, we present here a fully statistical method to perform endoscopic imaging from speckle correlations, without relying on ...

Here we give the details of the algorithm developed to extract quantitative strain information from the recorded speckle pattern scattered out of a multimode fiber.

In this paper, we propose and demonstrate a high-resolution wavelength-scanning multimode fiber imaging system, enabled by an integrated optical phased array with only 8 phase shifters.

We propose a straightforward, low-cost, and portable SOP measurement system based on the multimode fiber speckle. A convolutional neural network is utilized to establish the mapping ...

This work introduces an in-situ nano-displacement measurement system via a multimode fiber probe with superoscillatory speckles and deep learning.

In this paper, we propose and demonstrate a high-resolution wavelength-scanning multimode fiber imaging system, enabled by an integrated optical phased array with only 8 phase ...

Speckle imaging through single multimode fibers (MMFs) has garnered significant attention for its minimally invasive nature and high imaging resolution. However, the prevalent fully ...

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