

Measurement of the slope of transparent micro-structures using two-steps parallel phase shifting interferometry.

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Abstract.

In this research we implemented a two-step phase shifting system based on two cyclic-path coupled interferometers for slope measurements of transparent samples. The optical system generates two π -shifted interferograms, and the phase shift between interferograms is obtained by rotating a linear polarizer. We analyzed the cases of four patterns with shifts of $\pi/2$ captured in two shots; the optical phase was processed by a four-step algorithm. In order to present the capabilities of the system, results obtained for slope for transparent microscopic samples are presented.

Keywords

Phase shifting; Interferometry; Polarization; Microscopy