

## WHITE-LIGHT INTERFEROMETRY WITHOUT DEPTH SCAN

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White-light interferometry is an established and proven method for the measurement of the shape of objects. It is able to measure the shape of objects with both smooth and rough surface. However, white-light interferometry suffers from some limitations. One of them is the necessity of the depth scan (the measured object is mechanically moved relative to the measuring device). We present an optical 3D sensor based on white-light interferometry that can measure the shape of objects without the mechanical depth scan. The output of a fiber optic interferometer is used as the light source for the measuring interferometer. An optical modulator inserted into one arm of the fiber optic interferometer changes the optical path difference between the interferometer arms so that the spectrum at the output is periodic. The variation of the spectral period replaces the depth scan. A focus tunable lens is a part of the imaging system. This lens secures that the object's surface is still in the focalization plane of the imaging system.