

“Dynamic phase interferometric measurements based on Polarization Phase Shifting Techniques and Pixelated Polarization Sensor”

Abstract

The aim of this seminar is to present several single shot interferometric configurations implemented to analyze temporally varying phase changes. The implemented systems were based on the combination of polarization properties, through the Jones Calculation approach, with interference pattern replication methods. Initial systems firstly used a 4-f system with phase/amplitude gratings in its Fourier plane, then proceeding to alternative approaches employing diverse optics components and currently employing a pixelated polarization sensor. Some of the implementation presented were aimed on retrieve the slope of the phase directly, follow dynamic temperature fields in time and the final part of the seminars presents a composed system employing computed tomographic (CT) techniques to retrieve the 3D localization of a static sample.