

Abstract Submitted
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Measurement by Digital Image Correlation of the topography of a liquid interface¹ FREDERIC MOISY, MARC RABAUD, KEVIN SALSAC, Laboratory FAST, University Paris-Sud — A non intrusive method to measure the instantaneous topography of a fluid interface with a resolution of $1\ \mu\text{m}$ is presented. This method is based on the analysis of the deformation of a random pattern of points due to the refraction through the interface. The cross-correlation between an instantaneous image and a reference image obtained when the surface is flat allows for the reconstruction of the local fluid height. Movies of time-resolved circular waves created by the impact of a drop are analysed. Other applications for this method, such as fluid coating and wave turbulence, will be discussed.

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