

## Microtopographic Inspection of Asphalt by Optical Triangulation

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**Abstract.** The 3D inspection of surfaces and objects is of utmost importance in a large number of industries<sup>1</sup>. The characterization of the microtopography of rough surfaces is a particularly demanding process. Optical triangulation can be a successful starting basis for systems of characterization of the texture of rough surfaces<sup>2</sup>. In this communication we will present the MICROTOP series of microtopographer developed at the Microtopography Laboratory of the Physics Department of the University of Minho in Portugal. In particular we will address the microtopographic inspection of different types of advanced asphalt<sup>3</sup> currently under development at the University of Minho. The characterization of the texture of rough surfaces like most of the ones that can be found in asphalt pavements, it's a difficult and complex process. The success of the process is highly dependent on the metrological tolerances but also on the particular characteristics of the surface, both physical and compositional but also on what concerns its tridimensionality. The characteristics that an optical surface inspection system must have will be discussed.

**Keywords:** Texture, microtopography, asphalt, optical triangulation

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