

LIDAR METHODS IN EARLY DETECTION AND MONITORING OF FIRES AND COMPUTER BASED SIMULATION

Sanja Jevtic

Railway Technical School, Belgrade

Milesa Sreckovic

Faculty of Electrical Engineering, University of Belgrade

Radovan Radovanovic

The Academy of Criminalistics and Police Studies, Belgrade

Summary: Methods for early detection, dynamics monitoring and surveillance of fire processes are topics which belong to the method class where high reliability, detection rate and response imply. Although various transformation processes exist for measuring and quantification of the principal parameters of fire processes, the use of optical methods (including ultraviolet, visible and infrared ranges) is increasing. Laser – quantum generator in all three parts of optical range through various measurement methods of real atmospheric parameters or fire environment are for a long time included in this area. Operation methods are related to linear and nonlinear processes enabling different ranges of measurement uncertainty. This paper is on one hand, dedicated to the analysis of up-to-date optical methods based on lidar solutions and on the other to simulation methods and possibilities of modern software tools.

Keywords: lidar, laser, fire, simulation.

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