An integrated infrared-visible system for fire detection

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Abstract: The activity under investigation in this paper regards in particular the development of an information system for the automatic monitoring and detection of forest fires, using combined infrared and visible cameras. The proposed system is based on previously selected and studied algorithms.

An integrated information system developed for the monitoring and the automatic detection and location of forest fires is described. This system uses robotized stations equipped with combined infrared (IR) and visible cameras. A specific approach has been developed based on computing thermal and spatial information suitably fused.

Real time meteorological information, and previously stored morphological information are integrated and processed by a suitable decisional component based on a fuzzy rules system, which gives the final response for an alert on an active fire.

Keywords: Fire Detection, Infrared Imaging, Integrated Detection System