

NEW CAPABILITY FOR EARLY FIRE DETECTION AND LOCATION

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ABSTRACT

This paper describes the function and capabilities of a new approach to incipient and mature fire detection, geolocation, tracking and characterization for the firefighting and forest management industry. This approach consists of a system, made up of an airborne pod and a ground station, currently under development by Synergistics and InterCountNet as a joint business venture. The airborne pod detects IR hot spots, computes their 'virtual GPS' based location, characterizes the fire intensity and spectrum then downlinks this data to the system ground station on low data rate RF telemetry. The data is filtered and processed at the ground station where it is overlaid onto a digitized map display. No focal plane array FLIR (Forward Looking Infrared) type of imaging is involved, yet the system will achieve a near instantaneous and thorough surveillance of large forest areas with high geopositioning accuracy. Enhancements to the system also include two way duplex voice relay and data communications capability from the ground station through the pod and to ground firefighting units at the fire scene and pod mounted scene cameras which are commanded (zoom, pan, tilt) from the ground station. The pod is entirely self contained with no electrical or mechanical interfaces to the host aircraft or helicopter except for attachment points. Other capabilities will be addressed in the paper. The paper summarizes by describing various applications and capabilities.