Fire Detection

Solar Blind UV imaging is the key technology for detection and imaging weak UV emitters during daytime. The core element in solar blind UV imaging devices is a UV Solar Blind optical filter with transmission window in the Solar Blind spectral range (240-280 nm) and high blocking levels out of the transmission band, in the UVb, UVa, visible and near IR spectral ranges. The sun radiation in the 240-280 nm spectral range is totally absorbed by the ozone layer in the atmosphere. Due to this layer, the intensity of the solar radiation reaching the earth at this spectral range is virtually zero allowing a weak UV emitter to be detected or imaged with no disturbing background at high signal to background ratio, when using appropriate totally solar blind filters. The bi-spectral solar blind UV-Visible camera DayCor II is adaptable for fire and flame detection, even when the emission in the UV solar blind spectral is weak. The applications are as the following:

Protection of Fuel Loading Gantries such as automatically fuel filling stations and automatic Loading Tracks. Ofil has conducted feasibility tests, which indicated the potential of the use of the bi-spectral UV-Visible camera for fire protection in such automatic filling stations. The camera has to be installed in a tower facing the filling station, in a distance of 100 – 200 meters from the filling station. The camera has to be stationed on a gimbaled platform and to enable periodic rotation in a defined angle covering the filling station. Being stationed in a fuel plant the camera should be ruggedized and protected from any gas penetration.

Forest fire detection A small wooden fire, the size of 100x100x100cm, is detected by the DayCor II from a distance of several kilometers. False alarms like sun reflections can easily be eliminated

Alcohol flames in chemical and petroleum industry will be detected and located directly with the DayCor II in early stages of the flame ignition, from distances of hundred meters.

Hydrogen fuel used in launching pads, may leak and will result in invisible flames which can be detected and located with the DayCor II camera.

Plumes of shoulder missiles can be detected with low false alarm rate from distances up to several kilometers.

P.o.b 4016 Nes-Ziona, Israel 74140 tel:972-8-9407953 ofil@inter.net.il