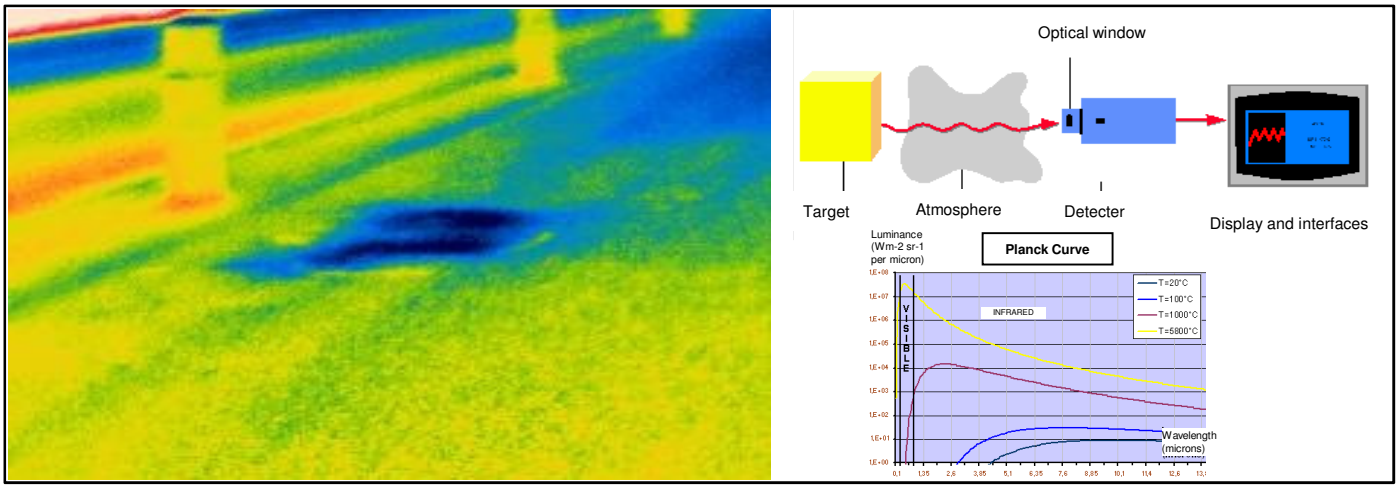
INFRARED THERMOGRAPHY



1

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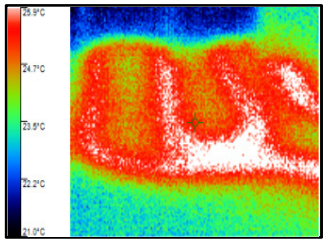

3

This technique allows a thermal image to be obtained in the spectral range of the infrared. In other words, infrared thermography allows the visualisation of temperature gradients that cannot be seen in the visible domain.

Applications

- Visualisation of temperature gradients, heated floors, heat bridges, insulation defects, leaks or water infiltration, etc.
- Control of foundations

The human eye can "see" heat at high temperatures: the sun (6000°C), tungsten filaments (2200°C), red iron (600°C); but for objects at low temperature (< 500°C), which emit little radiation, the human eye is inadequate (see Planck curve above).

The use of infrared radiation sensors overcomes this defect. Infrared cameras, which capture the radiation between 3.6 and 13 microns wavelength, convert this radiation into a thermal image, which allows the temperature to be displayed as a thermogram .

Data acquisition enables the temperature gradient within the study area to be determined. For example, heating pipes in a concrete slab can be observed (as in figure 3).

Following this type of study, we are able to indicate the temperature gradient in a given area.

Legend

1. Thermogram of road with waterproofing fault
2. Thermal camera
3. Heating pipes in a concrete slab

Key figures

- Measuring range: -20 to 120 °C
- Precision: +/- 2%
- Sensitivity (N.E.T.D.): < 0.07°C to 30°C
- Spectral response: 7.5 to 13 µm
- Focal plane array: 240 X 180 elements
- Image frequency: 9Hz
- Field of view: 25° hor. X 19° vert.

SDG Equipment

- Camera FLIR B200
- IR/visible/fusion modes
- Manual/automatic focus