

Contrasting temperature background for observing objects and events with an IR camera

Development status

Phase 2

Feasibility study. There is a realistic design of the technology and the initial tests in the laboratory are leading to the specification of the technology requirements and its capabilities.

IP protection status

registered utility model of the Czech Republic No. 35734

Partnering strategy

Collaboration, licensing

Institution



Tomas Bata University in Zlín

Challenge

When observing an object with an IR camera, if the observed object has the same temperature as its surroundings, it may merge with the background when evaluating the thermogram. This effect can be avoided if the background has a contrast temperature.

Description

Temperature contrast is achieved by placing a temperature contrast background behind the observed object. Mechanically, it is a sandwich structure consisting of a matrix that forms its own thermal background, as well as one or more Peltier cells and a heat exchanger that removes heat from the hot side of the Peltier cells.

Commercial opportunity

Commercial applications can be found wherever it is necessary to observe an object in the infrared region, especially in the vicinity or directly on the contours, and where the temperature of the observed object does not differ from the ambient temperature. These are cases of so-called low temperature excitation.