

# Near Infrared Thermography with Silicon FPA - Comparison to MWIR and LWIR Thermography

by Y. Rotrou\*, T. Sentenac\*, Y. Le Maoult\*, P. Magnan\*\* and J. Farré\*\*

\* *Centre de Recherche sur les Outillages, les Matériaux et les Procédés (CROMeP), Albi, France*

\*\* *Laboratoire de Conception d'Imageurs Matriciels Intégrés (CIMI), Toulouse, France*

## Abstract

An ideal thermographic camera could be defined as an uncooled system with high spatial and thermal resolutions featuring a video frame rate, and a short calibration process. In this paper a measurement system based on Silicon Focal Plane Array (FPA) operating in the Near Infrared spectral band (0.7 – 1.1 $\mu$ m) is proposed. This system offers an excellent spatial resolution, a low cost and compactness.

We show that, with a specific radiometric model, the system can accurately measure temperatures, in a broad temperature range, from 400 up to 1000°C. A comparison with two commercial infrared cameras is performed between 400 and 700°C.

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