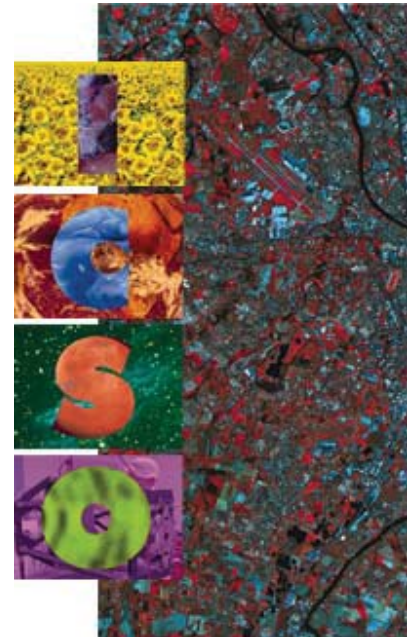


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Low cost infrared space instrumentation using uncooled microbolometer arrays

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LOW COST INFRARED SPACE INSTRUMENTATION USING UNCOOLED MICROBOLOMETER ARRAYS

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New uncooled infrared microbolometer arrays now allow to obtain detection limit as low as 50 mK (f/1, 60Hz). As a result, these detectors can advantageously be implemented on infrared space instruments, reducing their cost and their complexity.

We performed extended characterization of both LETI/LIR 256x64 prototype and Boeing U3000 320x240 detectors, in order to derive their ultimate performances. These results are presented in this paper and include Netd, linearity, time constant, FTM and spectral response measurements.

As an example of application for these detectors, we discuss the possibility to implement them in an Earth remote sensing instrument at high and medium resolution. We will show how the performances of the system can be improved by using specific observing mode, in accordance with our measurements. On this basis, the instrument performances will be given.