

CESAR: Cryogenic Electronics for Space Applications and Research

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X-ray and far-infrared space astronomy missions scheduled for the next decade requires improved cryogenic detector arrays. In the development of these detectors one of the most important factors is the restricted amount of available power, at low temperature, in space conditions. The power budget is mainly consumed by wires that link the cooled detectors to the distant warm electronics. One solution for this problem is the development of the signal processing functions close to the detectors themselves. This was the main goal of the EU-FP7 program CESAR: Cryogenic Electronics for Space Applications and Research. The programme included the development of cryogenic front-end electronics with intrinsic properties as good as those of the detectors themselves, complex electronics circuits working at or below 4 K, and combination of both developments and end-to-end tests on large 2D arrays. In this presentation I review the main results of this project.