LYNRED

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Title:

Latest electro-optical test means developments for SWIR band at LYNRED

Abstract:

Detector developments for space program usually require standard characterization measurements for acceptance test delivery, that is to say essentially dark current and radiometric measurements (SNR, linearity…), but also spectral and geometric measurements. At detector level, each of these measurements is performed on specific test facilities.

However, in some cases, the customers ask for more demanding test coverage to be more representative of the flight requirements. Indeed, the IR scene view from the satellite is not uniform and constant, and the in-flight optical configurations are difficult to be reproduced in laboratory. These requests require development of innovative test means. We will present the latest needs for these tests, including linearity at low flux, temporal lag, straylight and spectral reconstruction.

Another important issue is the ability to perform all required tests in a limited time in order to satisfy mission schedule. One way of doing it is to elaborate a different test strategy by restricting the number of measurements or to increase the requirement coverage by calculation/simulation rather than test. Another way is to decrease test time by introducing an innovative test bench concept that can perform more test sequences faster, for example by performing several acceptance test measurements in one optical configuration. Results and expected gains of a new concept bench will be presented to achieve this goal.