

First results on a LGSWFS prototype for the ELT

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In this presentation, we introduce the first experimental results obtained with the new C-MORE camera, in order to develop a Laser Guide Star Wave-Front Sensor for the ELT. Indeed, the size of the ELTs is a challenge for LGSWFS, as it calls for large, fast and noise-free detectors. Toward this goal, the new C-MORE camera offers 1100x1100 pixels that can be read at almost 500Hz and with less than 3e- Read-Out-Noise. It also offers a global shutter mode, which reduces the risks on WFSensing. At LAM we have implemented a test bench in order to demonstrate the capabilities of this new device to perform LGS WFSensing. In this presentation, we will first present the electronic tests performance on the camera. We will then report on linearity of the detector, as well as its behavior vs. flux. Plans to upgrade the bench with a 80x80 lenslet array and extended source are also presented. Overall, we find that this device is a very interesting and promising camera to equip the LGSWFS of the ELT, and it is proposed as the baseline for HARMONI.

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