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EMCCD calibration for astronomical imaging: Wide FastCam at the Telescopio Carlos Sánchez

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Abstract

The evident benefits of Electron Multiplying CCDs (EMCCDs) -speed, high sensitivity, low noise and their capability of detecting single photon events whilst maintaining high quantum efficiency- are bringing these kinds of detectors to many state-of-the-art astronomical instruments[5, 2]. The EMCCDs are the perfect answer to the need for great sensitivity levels as they are not limited by the readout noise of the output amplifier, while conventional CCDs are, even when operated at high readout frame rates. Here we present a quantitative on-sky method to calibrate EMCCD detectors dedicated to astronomical imaging, developed during the commissioning process[4] and first observations [3] with Wide FastCam[1] at Telescopio Carlos Sánchez (TCS) in the Observatorio del Teide.

References

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