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# Characterising front-illuminated and back-illuminated e2v CCDs in the context of weak gravitational lensing

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The performance of two e2v CCDs which are beamline-irradiated to levels representative of a mission end of life are the subject of this study. A spot projection system was constructed in order to project pseudo-galaxies onto areas of the CCDs, each partially irradiated with end of life and half end of life proton fluences. The photon transfer behaviour of a front-illuminated CCD273 and back-illuminated CCD273 are compared alongside spot projection data which questions the integrity of CCD pixels in the presence of signal dependent charge-spreading. The effect of different device biasing and clocking schemes are also investigated, particularly in the contexts of linearity and charge transfer inefficiency mitigation. The research goal is to infer the deterioration of weak gravitational lensing measurement quality with respect to time and suggest optimum device operating parameters.

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