

NGS2: a focal plane array upgrade for the GeMS multiple tip-tilt wavefront sensor

Francois Rigaut^a, Francis Bennet^a, Ian Price^a, Vincent Garrel^a, Celine d'Orgeville^a,
Chadwick A. Trujillo^b and Vanessa Montes^b

^a Australian National University, Canberra ACT 0200, Australia
^b Gemini Observatory, 670 N. A'ohoku Place, Hilo, Hawaii, 96720, USA

ABSTRACT

NGS2 is a focal plane array upgrade for the current Avalanche Photo Diode-based Tip-Tilt Wavefront sensor for GeMS, the Gemini Multi-Conjugate Adaptive Optics system. It uses the first ever produced multi-Region of Interest EMCCD, allowing frame rates of 800Hz for three 8x8 pixel windows, with read out noise down to 0.2e-. We will present the design --a compact and robust opto-mechanical design--, characterization of the HNu512 Nüvü detector, laboratory performance, and --if available-- the first on-sky results.

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