

HOT news

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Summary

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ESO's high order testbench (HOT) was designed more than a decade ago and implements extreme adaptive optics on a test bench with optical turbulence generation, an ALPAO woofer DM, a BMM 1k MEMS tweeter and a pyramid wave front sensor built by the team of the Arcetri Observatory. A scientific arm feeds an optical CMOS camera of the HAWAII 1 near-infrared (JHK) test camera. HOT has recently been refurbished (~1.3x oversampling of DM by WFS, spectral and spatial filters, improved calibration methods) to optimize the PWS performance. HOT now corrects for up to 600 K-L modes providing diffraction limited performance at optical wavelengths in good seeing conditions. We provide details on the new hardware and algorithms and quantitatively investigate the achieved performance gains. We also provide an outlook on further XAO R&D planned to support the ELT Planetary Camera and Spectrograph (PCS).

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