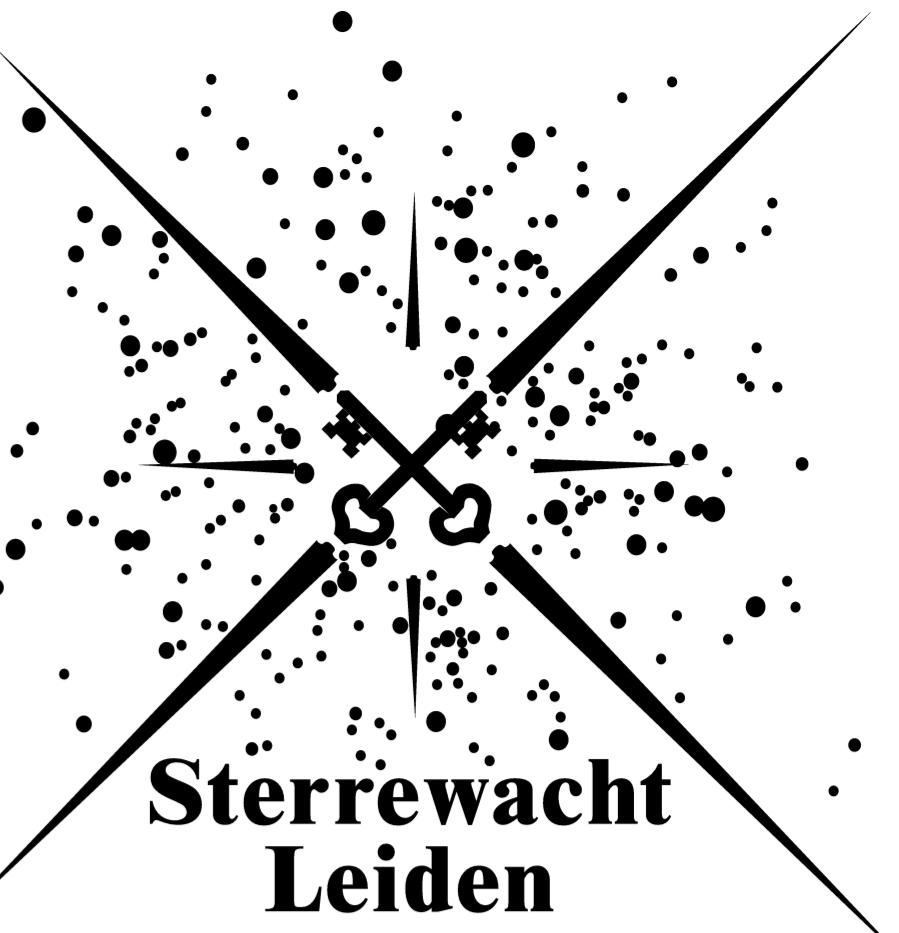




High-contrast imaging for ERIS

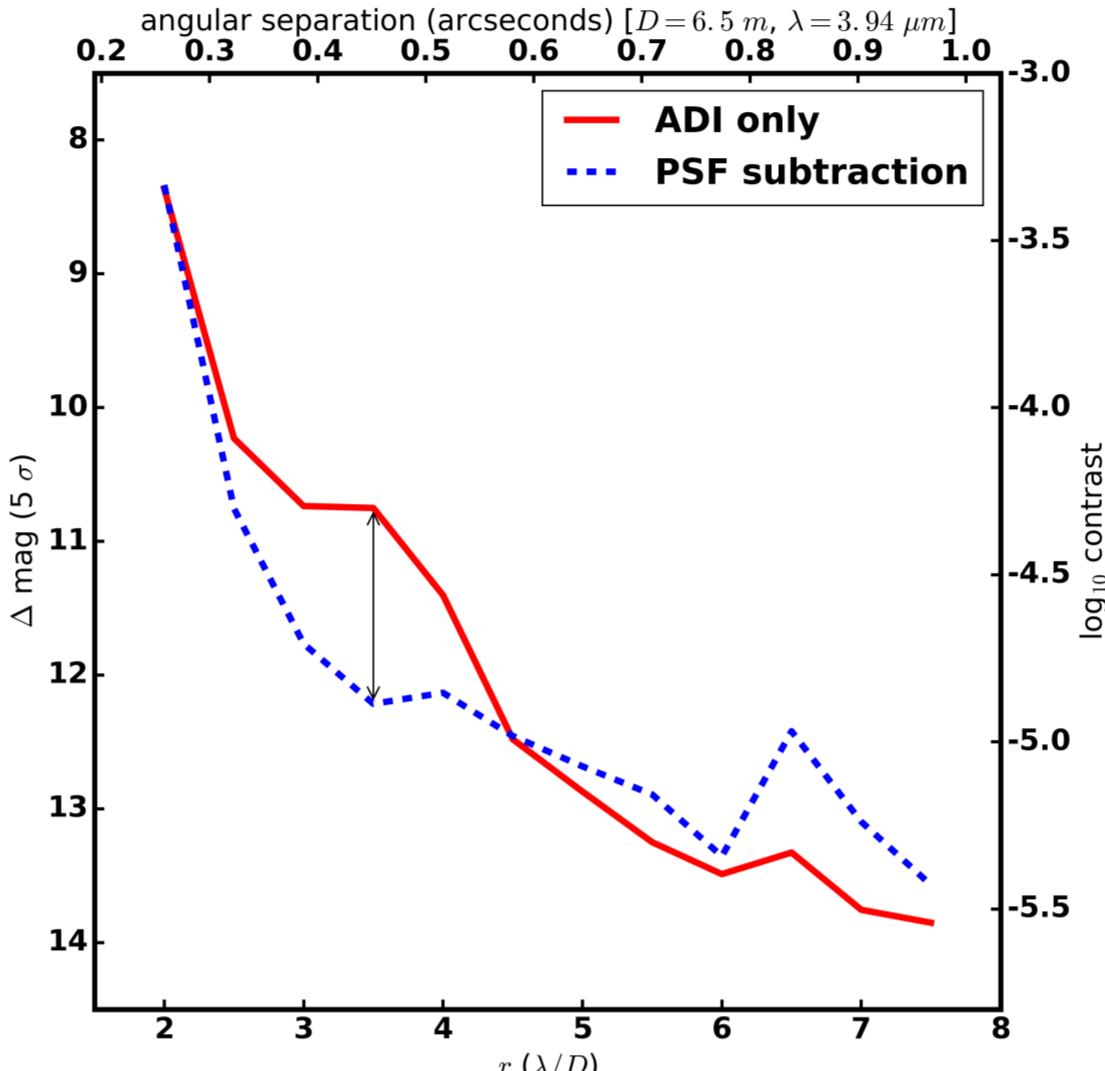
Matthew Kenworthy¹, Frans Snik¹, Christoph U. Keller¹, David Doelman¹,
Emiel H. Por¹, Olivier Absil², Brunella Carlomagno², Mikael Karlsson³,
Elsa Huby⁴, Adrian M. Glauser⁵, Sascha P. Quanz⁵, William D. Taylor⁶
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grating vector Apodizing Phase Plate

One optic in the pupil plane using liquid crystal polymers to make two coronagraphic PSFs with astrometric and photometric fiducial marks
(Snik et al. 2015; Otten et al. 2014)

Expected gvAPP Contrast

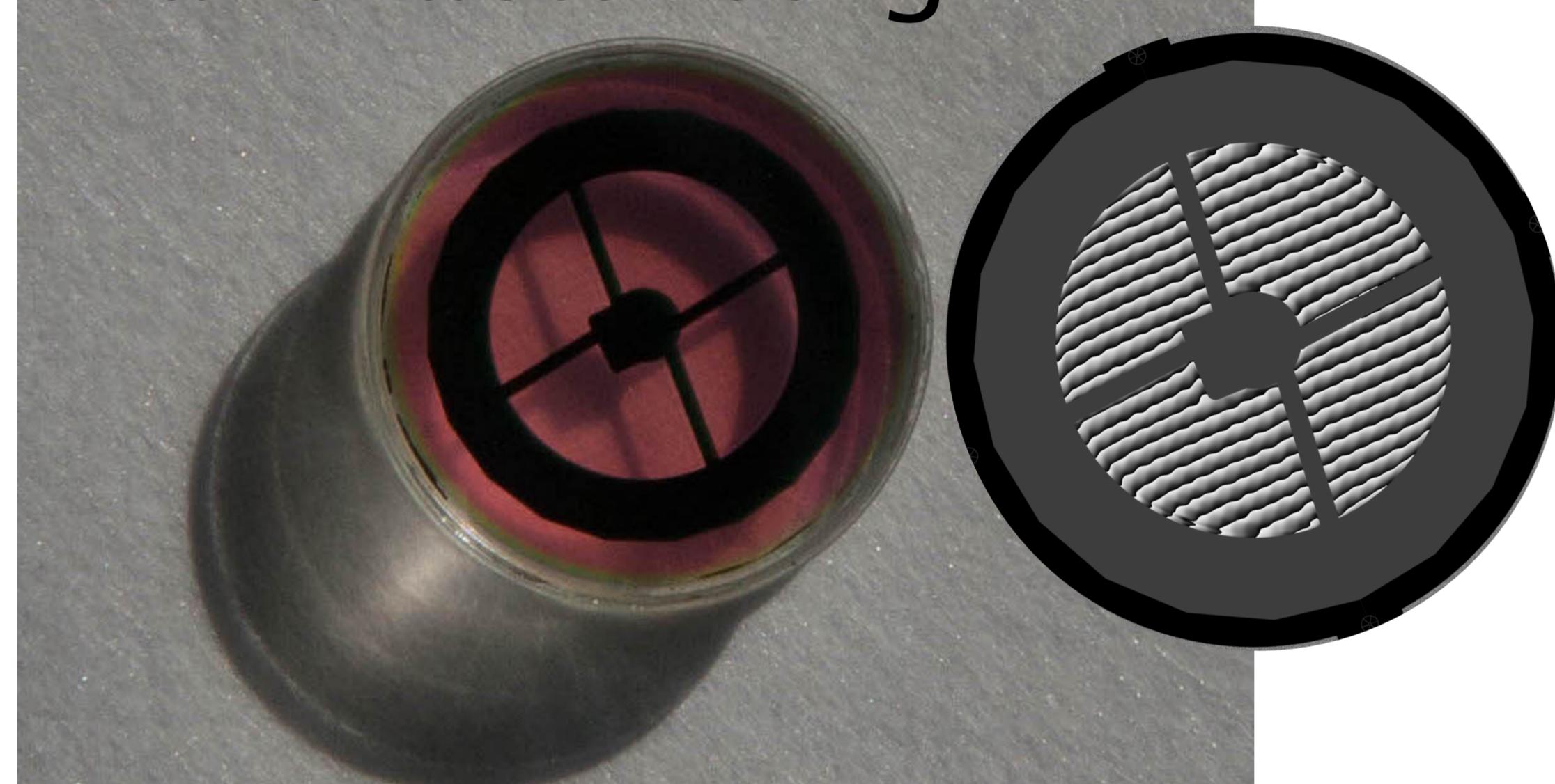


Vortex Coronagraph

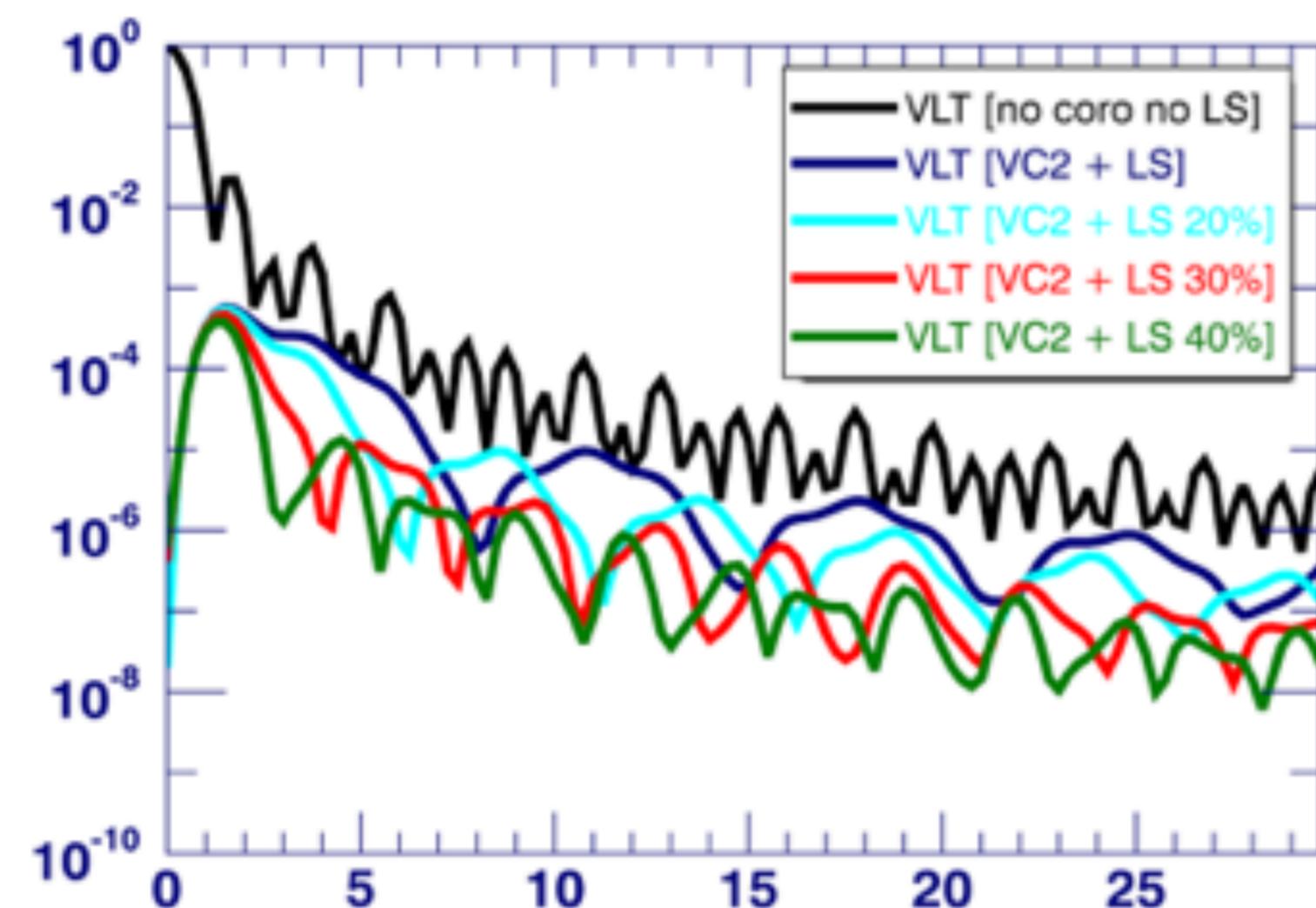
An Annular Groove Phase Mask (AGPM) for L and M band with a matched Lyot stop provides coronagraphy for exoplanet disk and planet discovery.

(Absil et al. 2013, 2016)

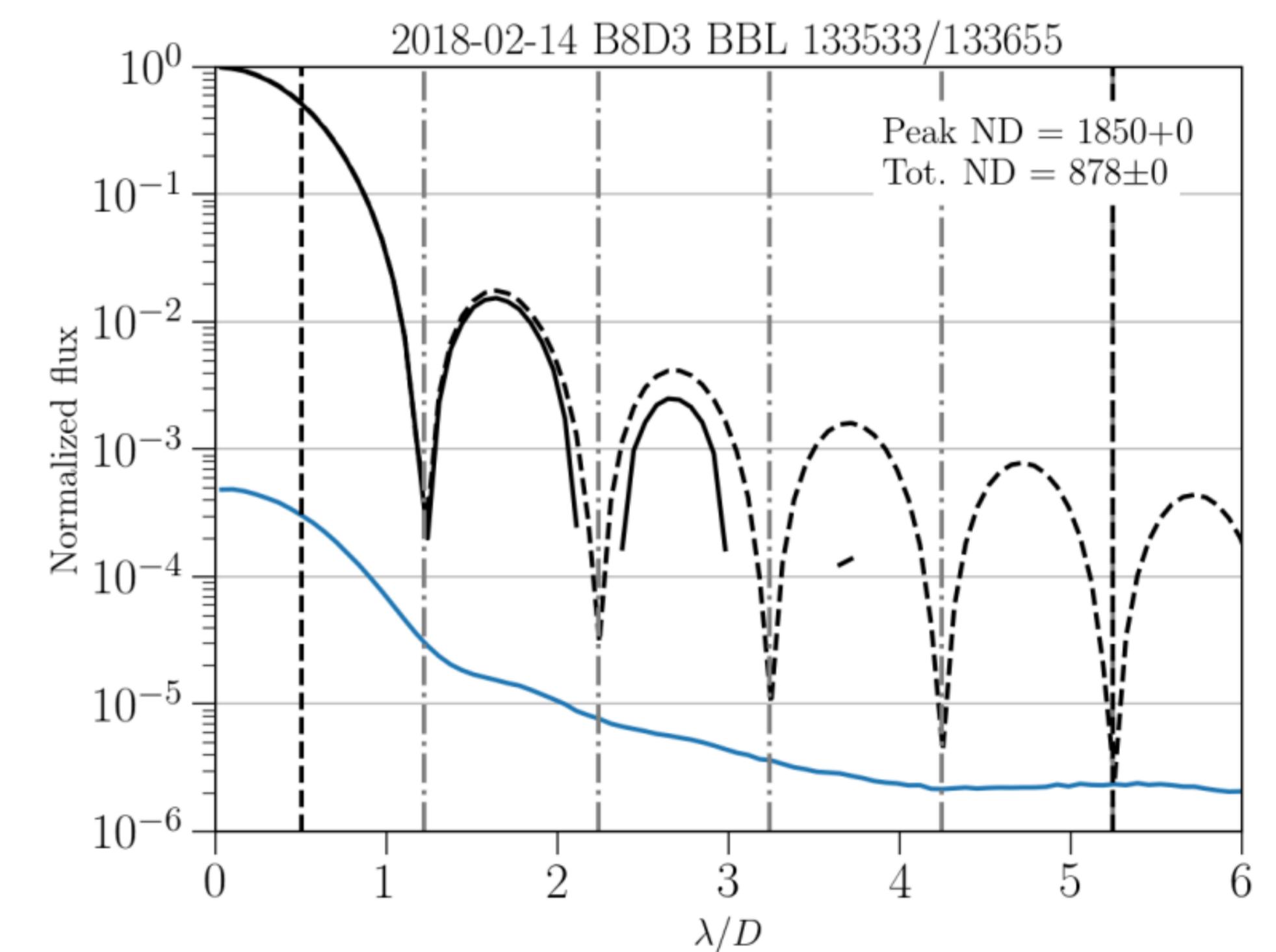
Manufactured gvAPP



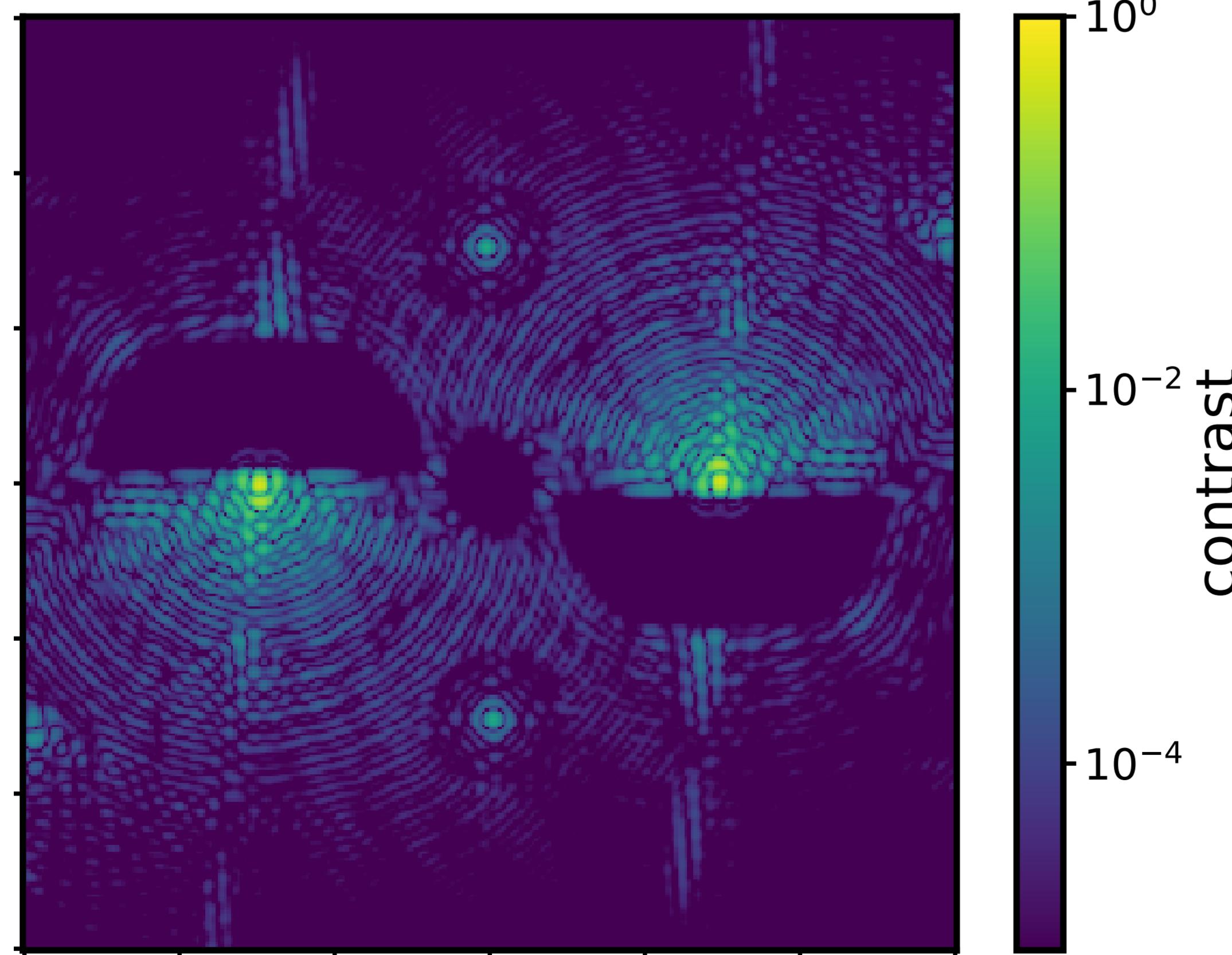
AGPM Suppression



Measured suppression of AGPM



PSFs of the gvAPP



PSI simulations of ERIS



Focal Plane Wavefront Sensing

Using telemetry from the WFS Camera and the science camera to characterise and remove speckles with Phase Sorting Interferometry (PSI; Codona and Kenworthy 2015)