

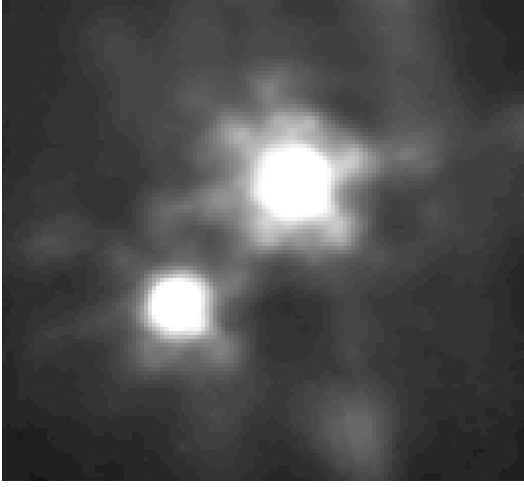


Fig. 1. Deep stellar exposure made with Pue`o on the CFHT. Note the regular pattern in the PSF wings with a six-fold symmetry, an artifact produced by the deformable mirror. The angular separation of this binary star is 1.4 arcsec.

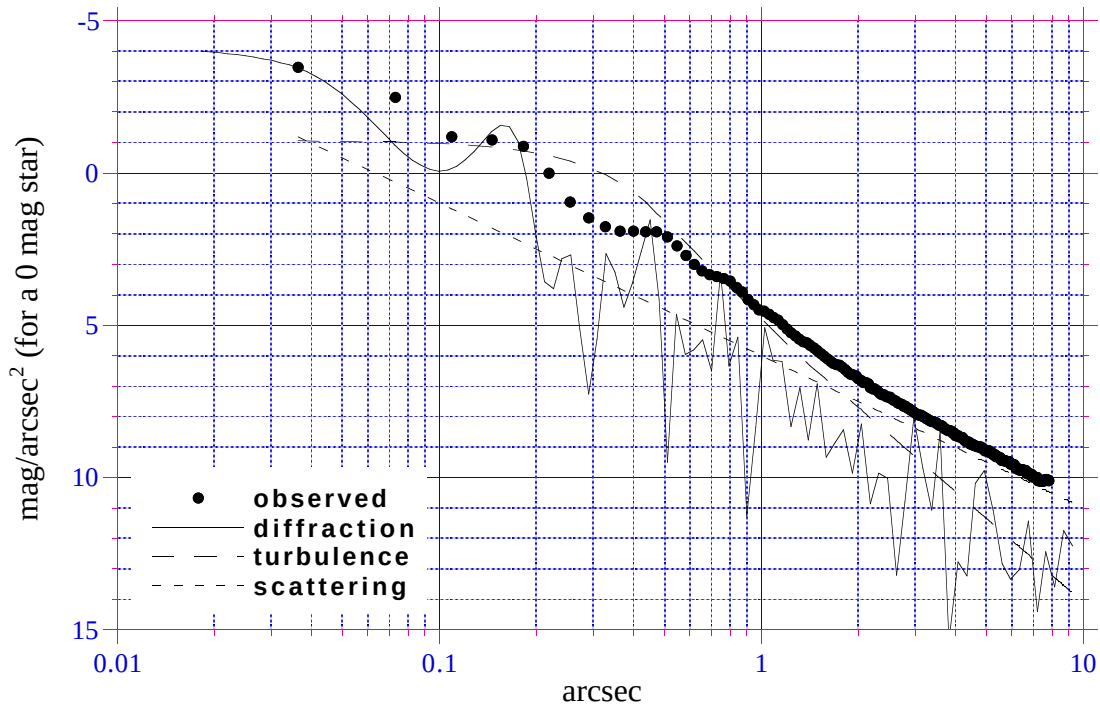


Fig. 2. A typical PSF recorded by Hokupa`a on the CFHT in the H band. It is displayed here in a log-log scale (black dots). Diffraction by the telescope aperture (full line), atmospheric turbulence (dotted line), and telescope optics (dotted line) all contribute to scattered light.



Fig. 3. Infrared ($1.7\ \mu\text{m}$) image of Neptune obtained with Hokupa`a on the CFHT. Image quality is comparable if not better than that of Neptune's HST images obtained in the same wavelength range. Thanks to AO, it is now possible to monitor Neptune's atmospheric activity from the ground.

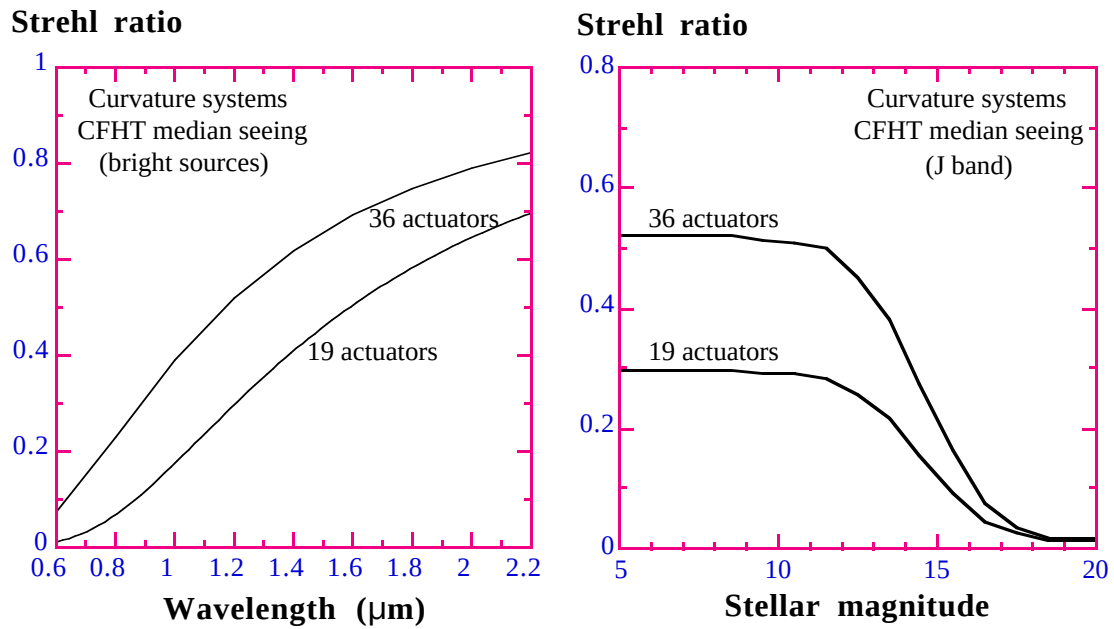


Fig. 4. Estimated performance for a 36-actuator Pue`o plus AO system. Strehl ratios are derived from real data recorded with the UH 36-actuator AO system on CFHT.

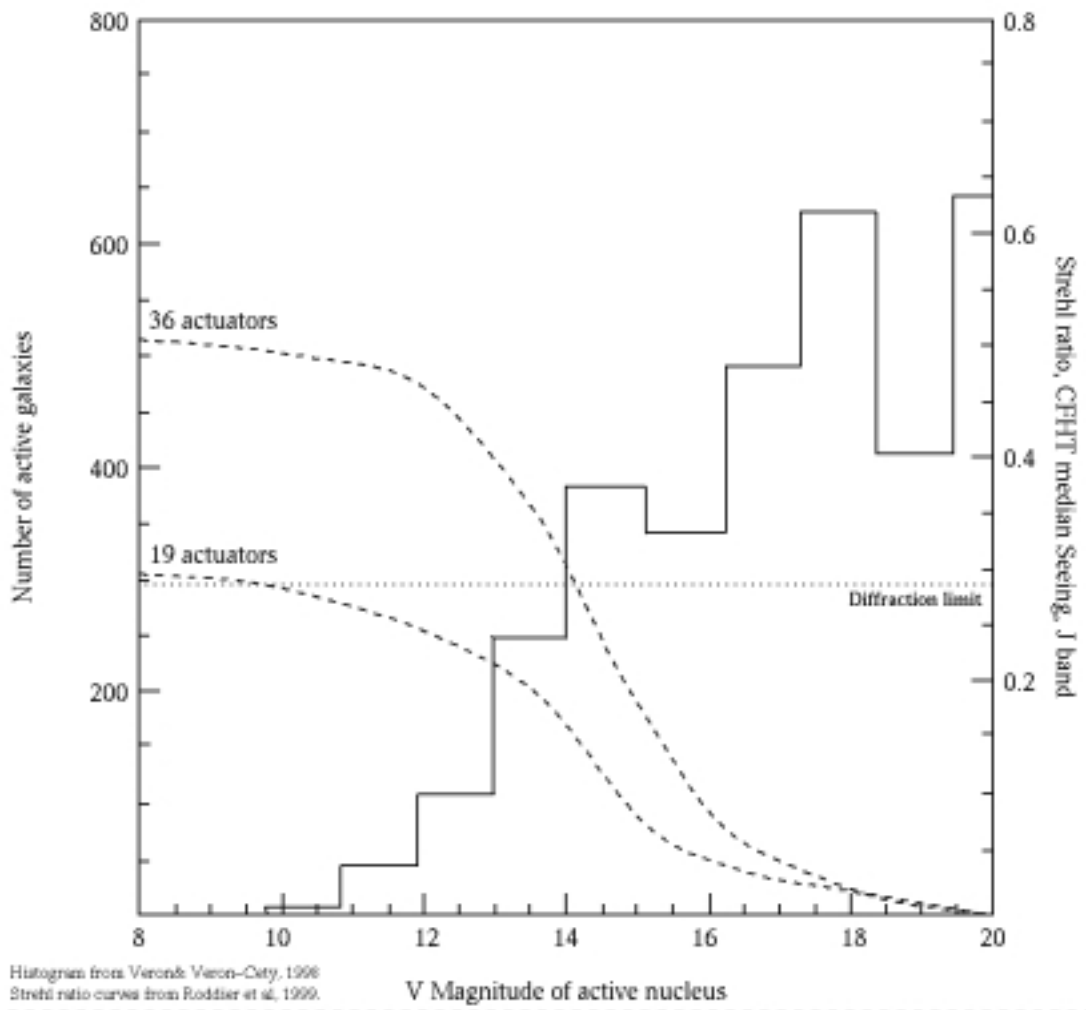


Fig. 5. The number of AGNs as a function of their V magnitude. Super-imposed are curves of Strehl ratio for a 19 and 36 element system at J band. The number of objects on which diffraction limited imaging can be achieved at such short wavelengths increases quite dramatically.