ASA
ASTRO SYSTEME AUSTRIA

ASTRO OPTIK
Dipl. Phys.
PHILIPP KELLER

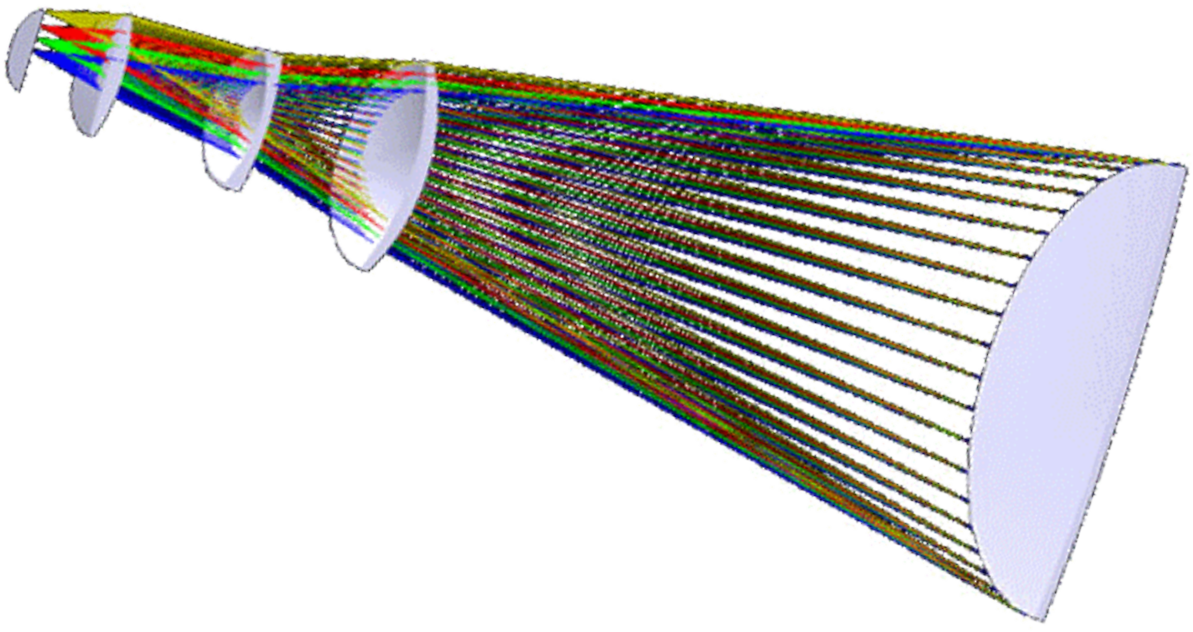
# ASA 400mm Wide-Field Telescope

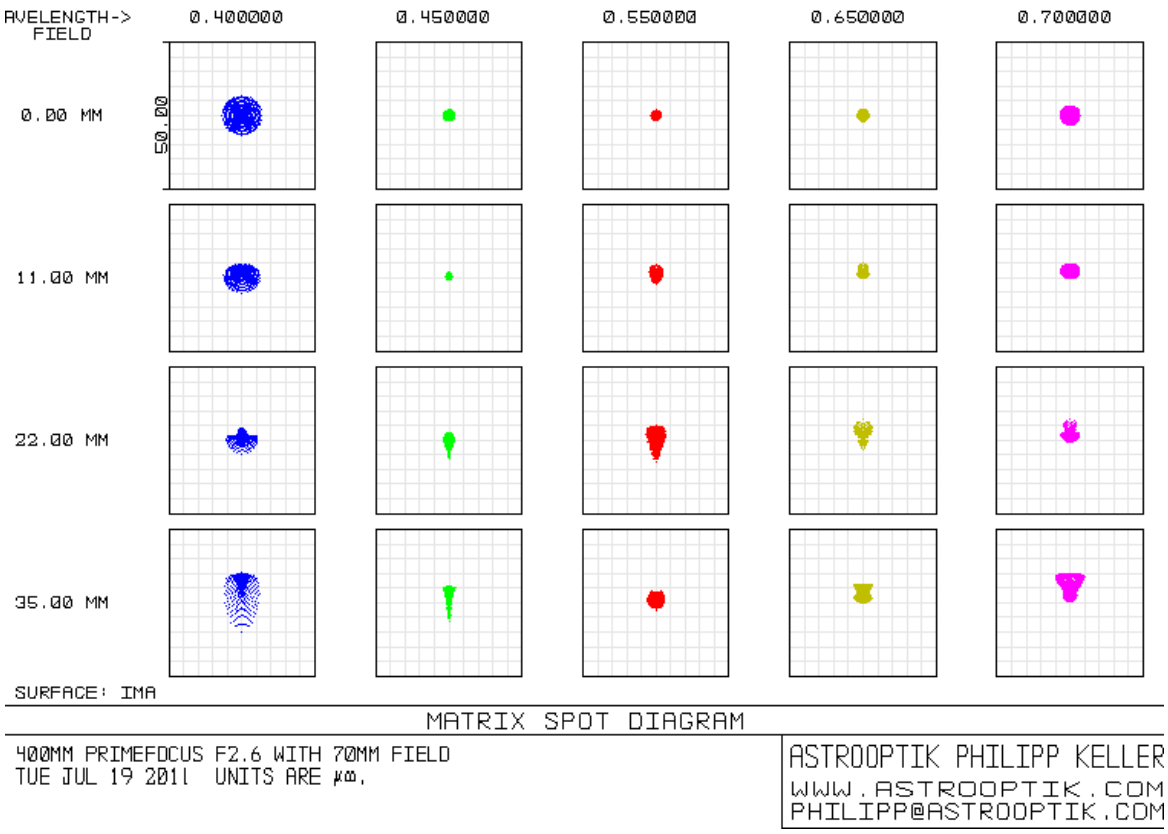
Our experience with wide field systems and focal ratios below f/3 shows that the performance can be reached best by using a Wynne Corrector design and direct prime focus. This is superior to Cassegrain-Derivates due to the low sensitivity against misalignment and the lower central obscuration.

We suggest to use a 400mm f/2.65 design with a usefull field diagonal of 70mm = 3.8degree.

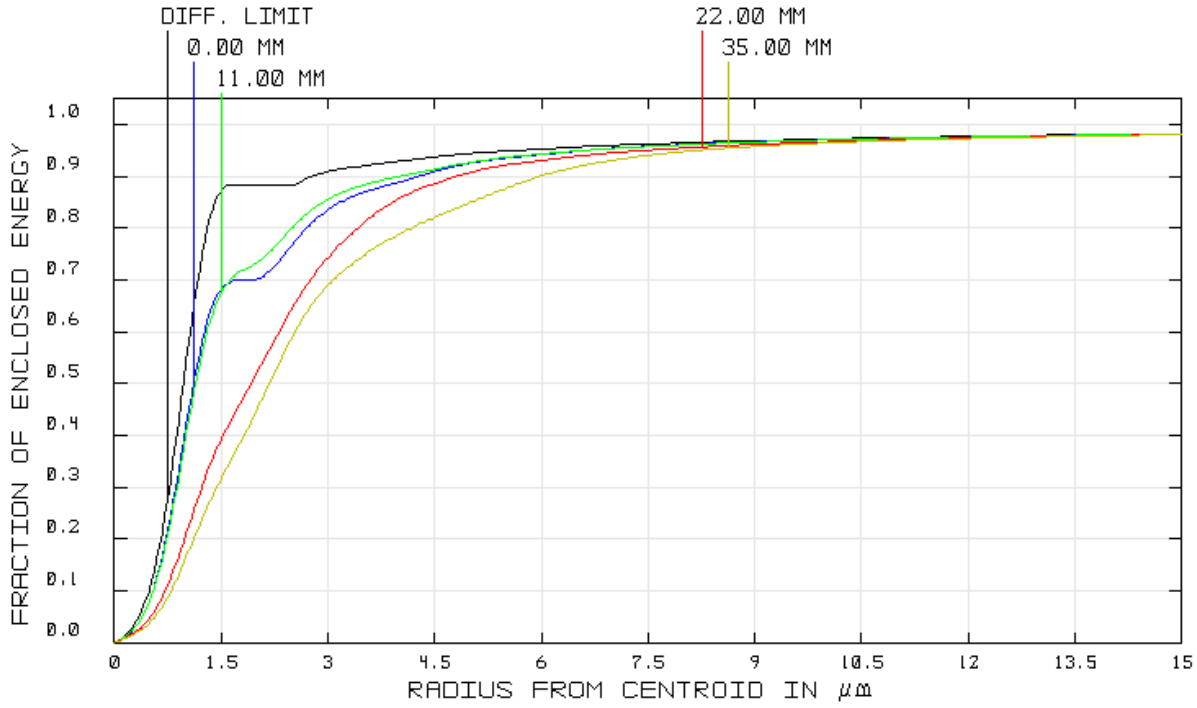
This design uses only 1 mirror and 3 lenses and can still deliver a fantastic spot size throughout a 70mm field. A 70mm field diameter gives enough reserves in case a larger format CCD should be added later.

The lenses are MC coated and due to the strong curvatures and large lens distances ghost images are usually not a problem (but depend on position of filters, CCD window etc.).






**Above spot diagrams shows the spot size focused on 550nm. Even better results are of course achieved if filters and refocusing is allowed.**




FFT DIFFRACTION ENCIRCLED ENERGY

400MM PRIMEFOCUS F2.6 WITH 70MM FIELD
TUE JUL 19 2011
WAVELENGTH: POLYCHROMATIC
SURFACE: IMAGE

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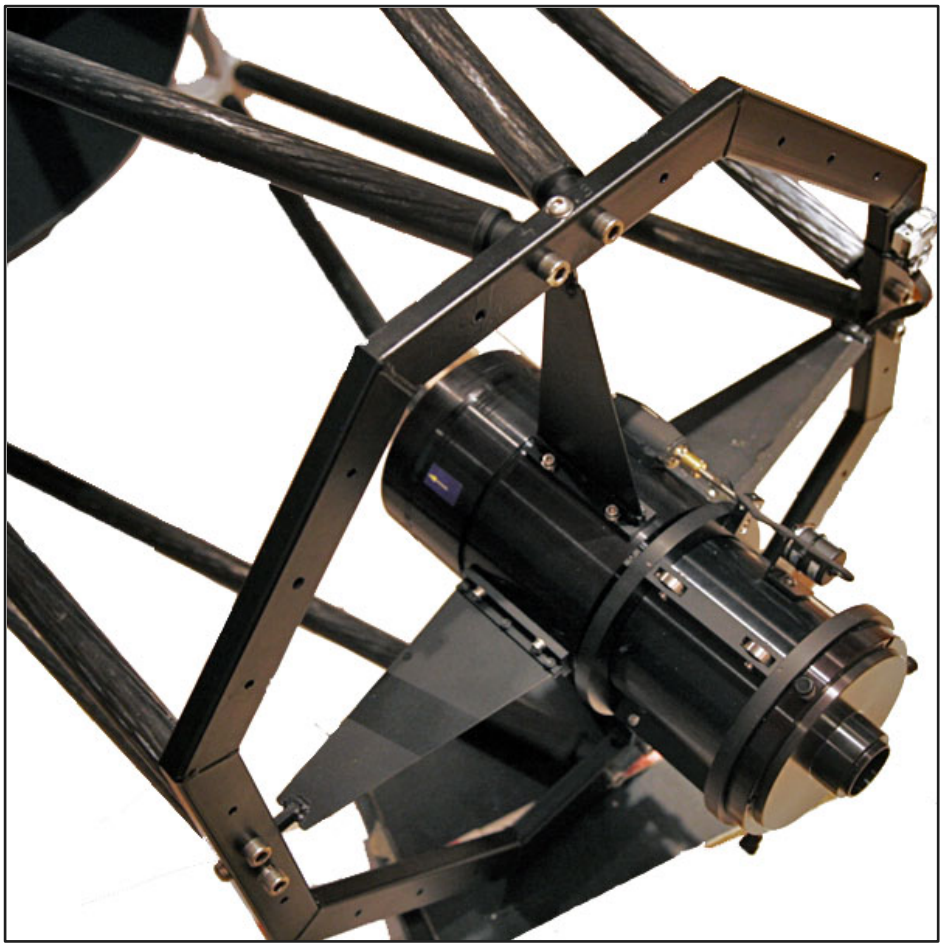
**Encircled energy shows theoretical FWHM values of around 4 micron for all wavelengths.**



**This shows a typical primefocus corrector cell with integrated focuser/encoder unit and prime focus adapter for a CCD camera.**

**A typical example of an image in 400mm primefocus with a wynne can be found on a customer's website:** http://panther-observatory.com/gallery/deepsky/media/M31_F3_70.jpg

**Nobody has built more fast wide field Wynne – prime focus systems than our workgroup (ASA Astrosysteme with Astrooptik Keller).**