APQ 150/1200 Fluorite Quadruplet Polychromat

APQ 150/1200 Fluorite Quadruplet Polychromat (with special equipment)

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APQ — Astronomical Precision Optics from JENA

- APQ JENA brings back to life astronomical optics to Jena after 25 years.
- The focus of our development and manufacturing program is on completely new Universal Fluorite Polychromats and Wide Field Fluorite Polychromats, which are significantly superior to conventional apochromats.
- The main feature of both optical designs is the polychromatic correction with a diffraction-limited imaging quality over a spectral range from 365nm (UV) to 1014nm (IR). Both visual observers and astrophotographers in particalur will benefit from this.
- Depending on the task of observation, a Universal Polychromat is used visually or combined with a Flat Field Corrector, Focal Reducer Corrector or Barlow System.
- The Fluorite Wide Field Polychromats are ultimately suitable for astronomical and nature photography as well as for visual observation.

Objective APQ 150/1200 Fluorite Quadruplet Polychromat

APQ 150/1200 Fluorite Quadruplet Polychromat — Specification

Objective APQ 150/1200 Polychromat

- UBVRI Fluorite Quadruplet Polychromat
- 150mm clear aperture, 1200mm focal length (f/8)
- Polychromatic Strehl ratio ≥ 0.95 (365nm – 1014nm)
- Four lens aspherical design
- CaF_2 lens protected between glass lenses
- Completely oil spaced without air gaps
- Compensation cell made of high quality aluminum and stainless steel alloys
- Ultra broad band AR coating
- Optical inspection certificate

Tube Assembly 150/1200

- Tube and dew cap made of high quality aluminum and stainless steel alloys
- Rectractable and lockable dew cap
- Dew cap diameter 195mm
- Dew cap shift range 160mm
- Tube diameter Ø167mm
- Telescope length 974mm (dew cap and focuser retracted), 1248mm (dew cap and focuser extended)
- 280mm backfocus

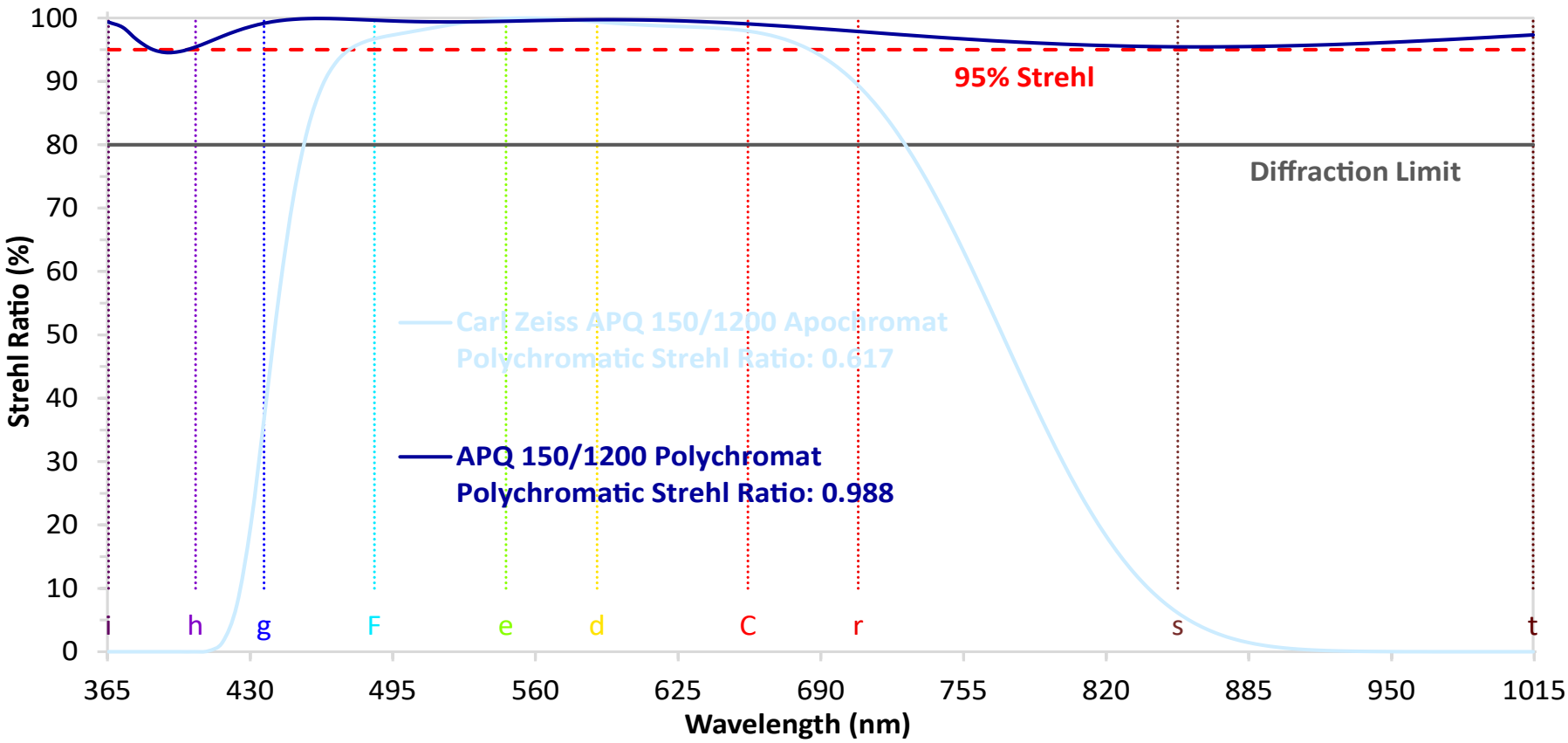
Focuser Feather Touch FTF3545

- Ø90.17mm (3.55") clear diameter
- 114.3mm (4.5") focusing range
- 8.1 – 9.1kg (18 – 20lb.) lifting capacity
- 10:1 reduction ratio
- 360° rotatable and lockable

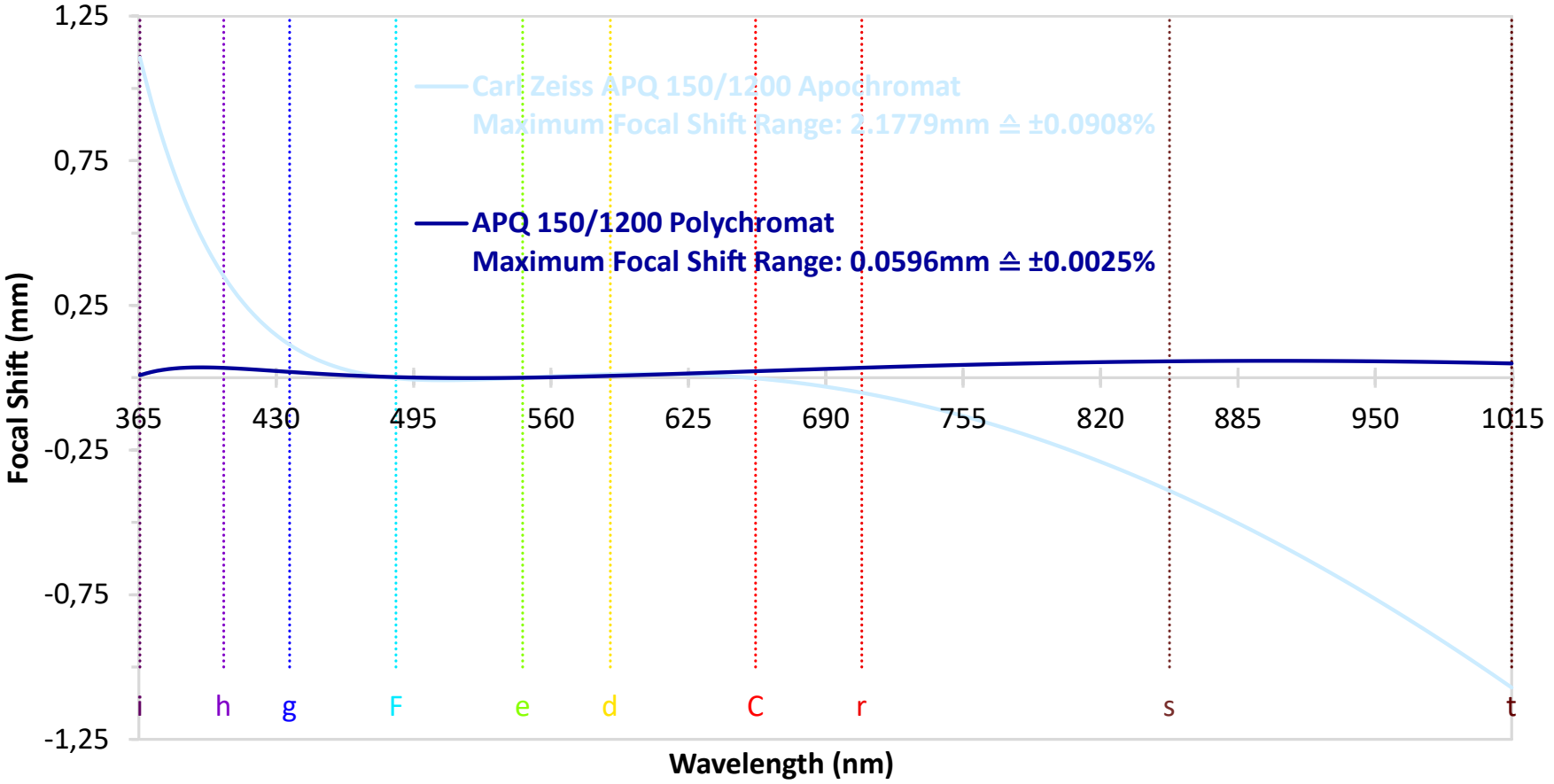
OTA APQ 150/1200 Polychromat

- The weight of the Optical Tube Assembly (OTA) is less than 13kg (28.7lb)
- S108 Quick Changer
- Dust-covers for Dew cap and Quick Changer

APQ 150/1200 Polychromatic Strehl Ratio — APQ JENA vs. Carl Zeiss



APQ 150/1200 Maximum Focal Shift Range — APQ JENA vs. Carl Zeiss



APQ 150/1200 — Matrix Spot Diagram

Matrix Spot Diagram

APQ 150/1200 POLYCHROMAT
22.12.2021 Units are μm

Airy Radius: 5.33 μm

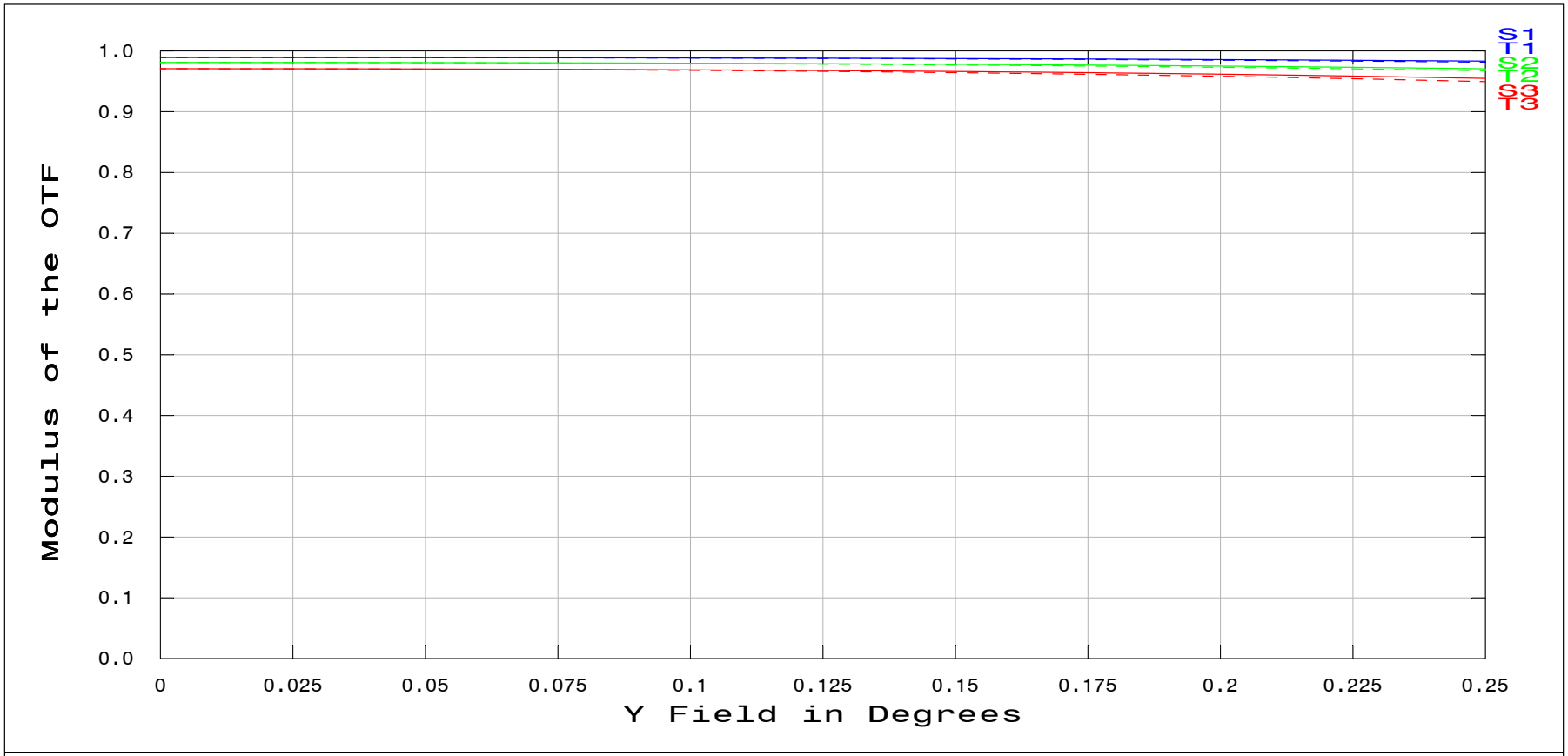
Scale bar: 20

Reference: Centroid

APQ JENA
First UV – VIS – IR Refractors

Configuration 4 of 4

APQ 150/1200 — Geometric MTF vs. Field



Geometric MTF vs. Field

APQ 150/1200 POLYCHROMAT
22.12.2021
Data for 0.3650 to 1.0140 µm
Freq 1: 30.00 cyc/mm
Freq 2: 40.00 cyc/mm
Freq 3: 50.00 cyc/mm

APQ JENA
First UV – VIS – IR Refractors

Configuration 4 of 4

APQ Field Corrector for APQ 150/1200 — Specification

- Three lens aspherical design (1 x CaF_2)
- Specially designed for APQ 150/1200 Polychromat
- 1200mm focal length (f/8)
- Flattened image field diameter Ø73.6mm (3.5°) without vignetting
- ≤ 4.5µm (365nm – 1014nm) / Ø73.6mm (3.5°) polychromatic RMS spot radius vs. field
- Ultra broad band AR coating
- Backfocus 100mm
- Lens cell made of high quality aluminum alloy
- Dovetail ring S108a on the telescope side
- Thread M88x1i on the camera side

APQ Field Corrector for APQ 150/1200

APQ 150/1200 with APQ Flattener f/8 — Matrix Spot Diagram

Matrix Spot Diagram

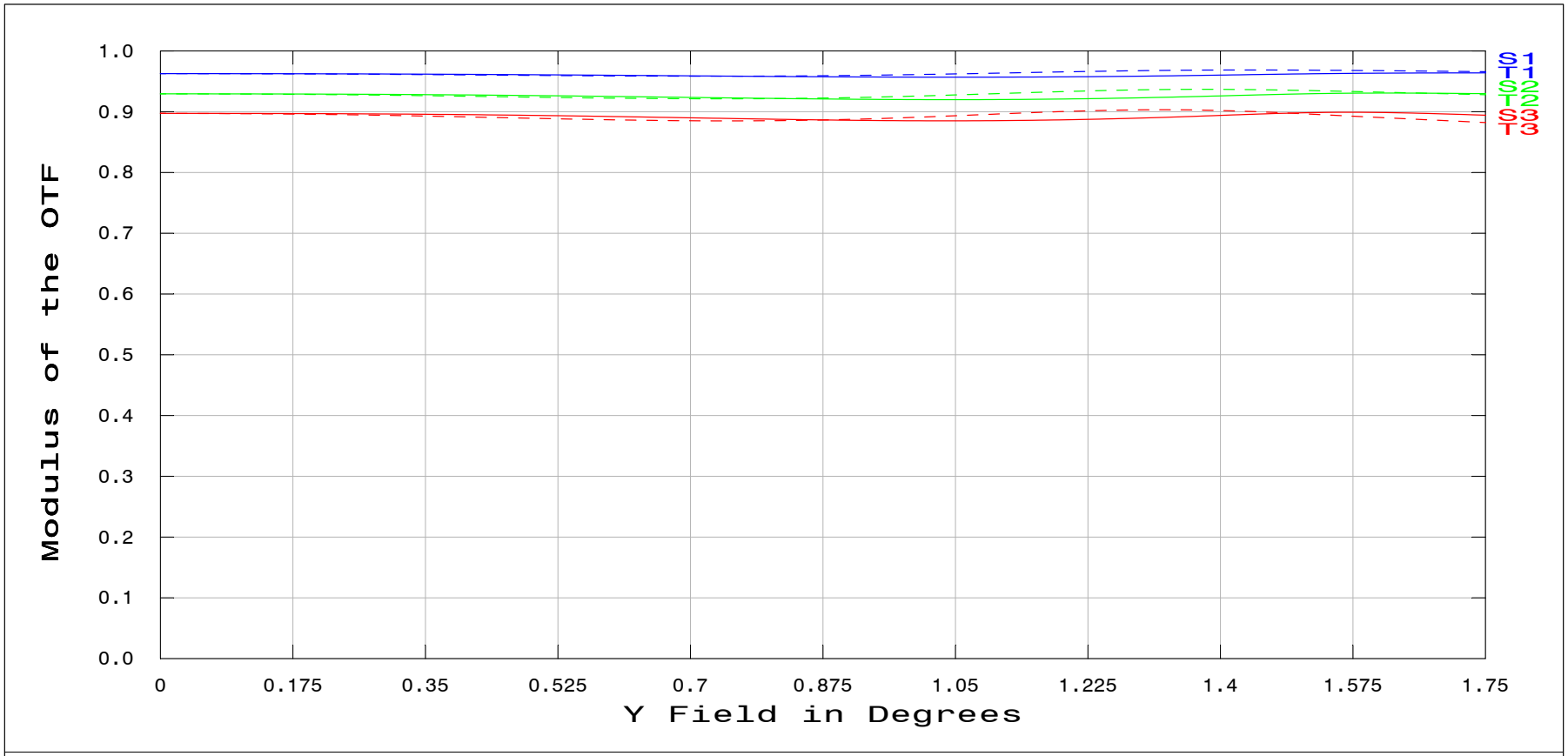
APQ 150/1200 POLYCHROMAT + APQ FLATTENER F/8 3.5°
22.02.2022 Units are μm Airy Radius: 5.329 μm

Scale bar: 25 Reference: Centroid

APQ JENA
First UV – VIS – IR Refractors

Configuration 1 of 5

APQ 150/1200 with APQ Flattener f/8 — Geometric MTF vs. Field



Geometric MTF vs. Field

APQ 150/1200 POLYCHROMAT + APQ FLATTENER F/8 3.5°
22.02.2022
Data for 0.3650 to 1.0140 µm
Freq 1: 50.00 cyc/mm
Freq 2: 75.00 cyc/mm
Freq 3: 100.00 cyc/mm

APQ JENA
First UV – VIS – IR Refractors

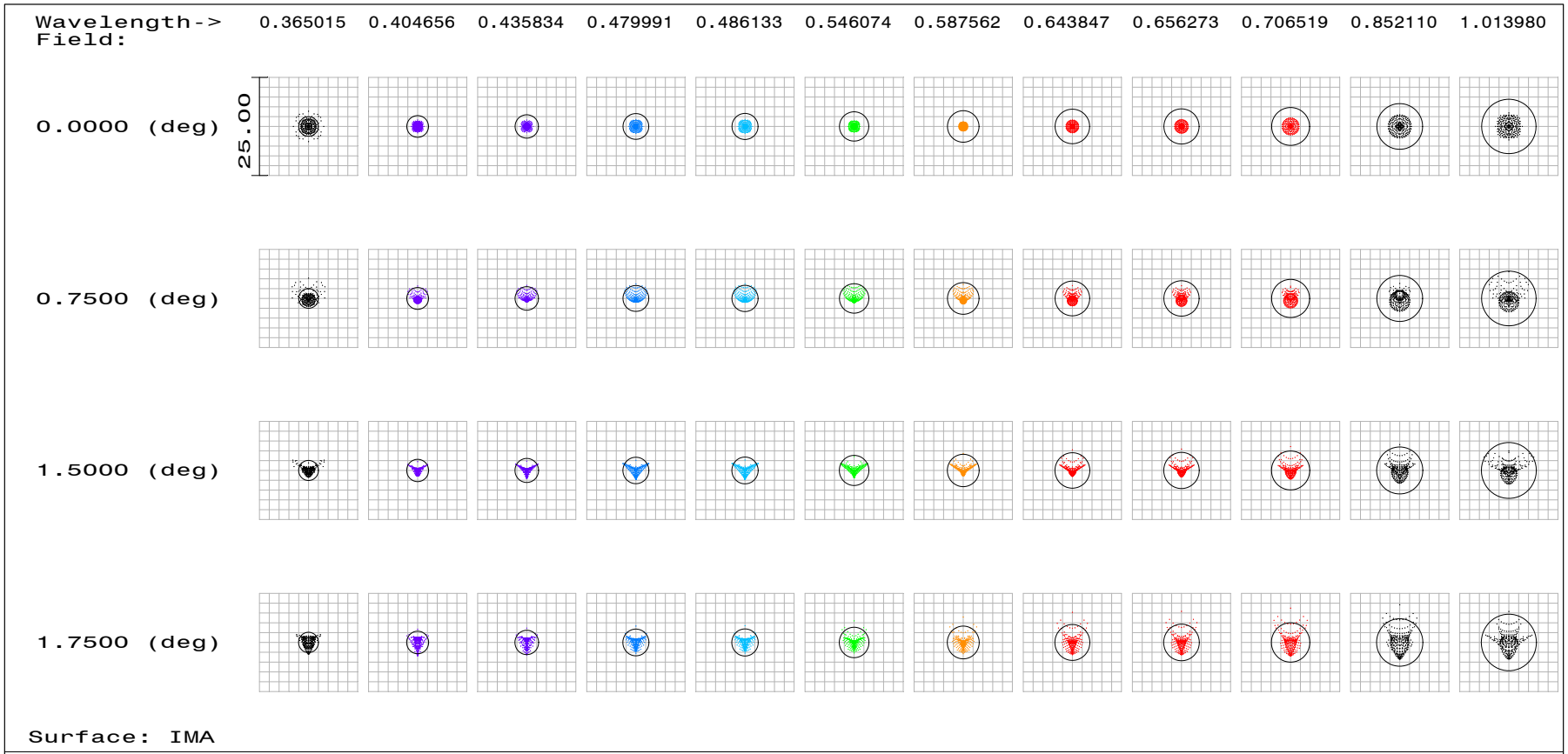
Configuration 1 of 5

APQ 0.7x Focal Reducer Corrector for APQ 150/1200 — Specification

- Six lens aspherical design (2 x CaF_2)
- Specially designed for APQ 150/1200 Polychromat
- 840mm focal length (f/5.6)
- Flattened image field diameter Ø52.3mm (3.5°) without vignetting
- ≤ 3.2µm (365nm – 1014nm) / Ø52.3mm (3.5°) polychromatic RMS spot radius vs. field
- Ultra broad band AR coating
- Backfocus 100mm
- Lens cell made of high quality aluminum alloy
- Dovetail ring S108a on the telescope side
- Thread M88x1i on the camera side

APQ Focal Reducer Corrector for APQ 150/1200

APQ 150/1200 with APQ 0.7x Reducer f/5.6 — Matrix Spot Diagram



Matrix Spot Diagram

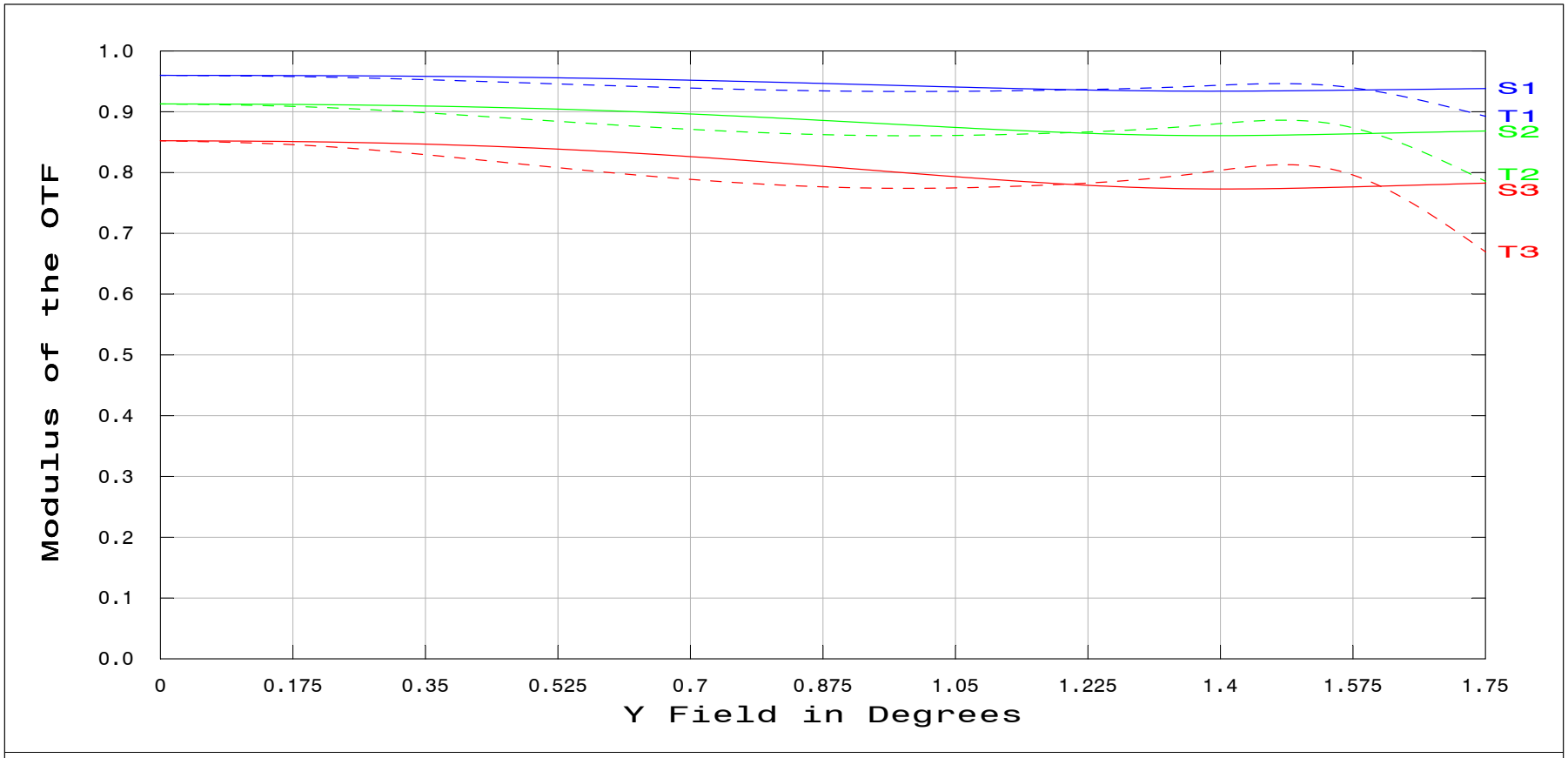
APQ 150/1200 POLYCHROMAT + APQ 0.7x REDUCER F/5.6 3.5°
22.02.2022 Units are μm Airy Radius: 3.731 μm

Scale bar: 25 Reference: Centroid

APQ JENA
First UV – VIS – IR Refractors

Configuration 2 of 5

APQ 150/1200 with APQ 0.7x Reducer f/5.6 — Geometric MTF vs. Field



Geometric MTF vs. Field

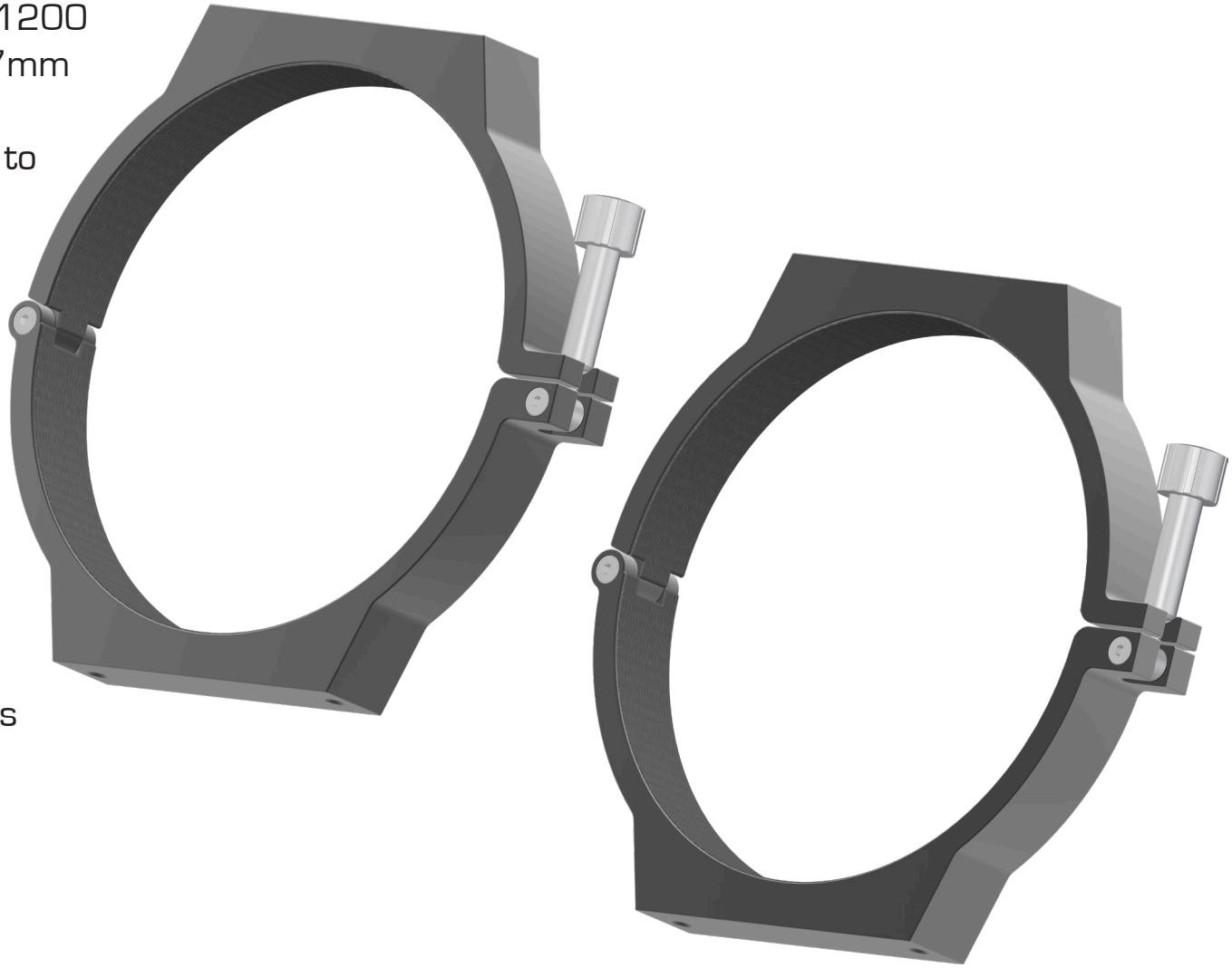
APQ 150/1200 POLYCHROMAT + APQ 0.7x REDUCER F/5.6 3.5°
22.02.2022
Data for 0.3650 to 1.0140 µm
Freq 1: 50.00 cyc/mm
Freq 2: 75.00 cyc/mm
Freq 3: 100.00 cyc/mm

APQ JENA
First UV – VIS – IR Refractors

Configuration 2 of 5

APQ 167mm Mounting Rings (Pair) — Specification

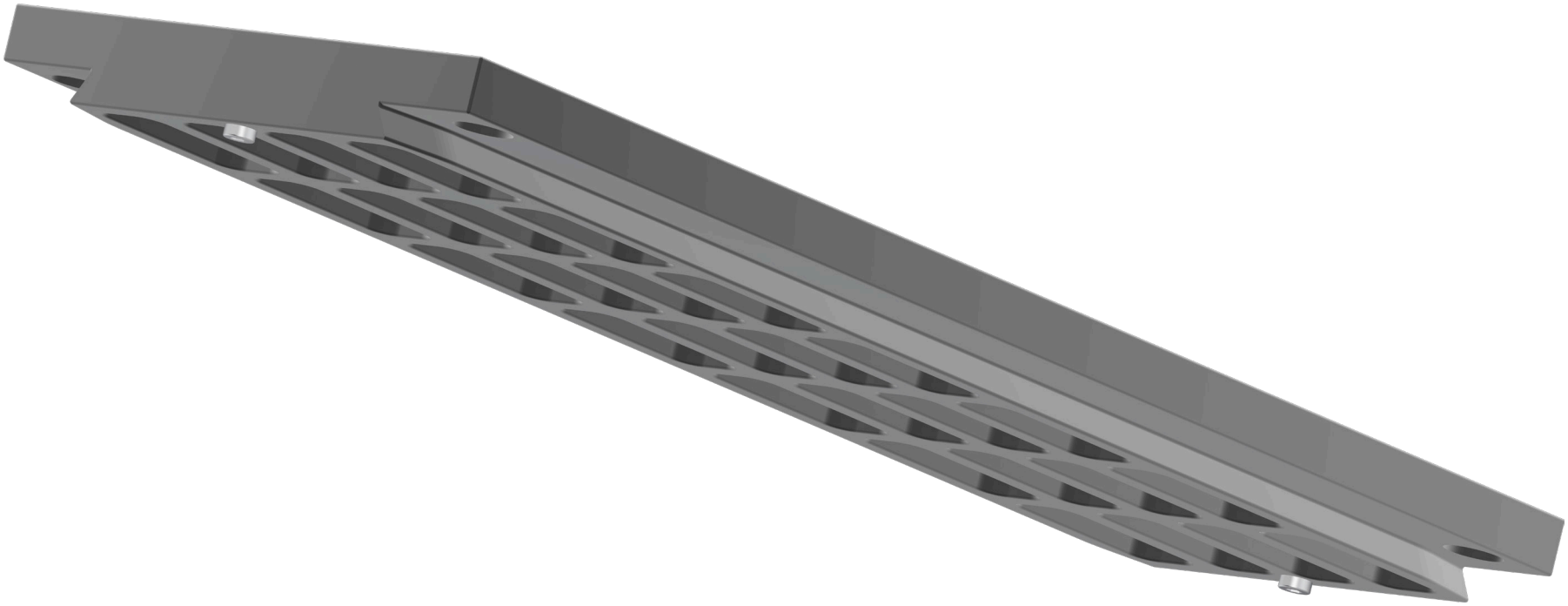
- Suitable for APQ 150/1200 Polychromat with Ø167mm tube diameter
- For secure attachment to APQ Dovetail Plates
- Each ring consists of a base part and a moveable top part, which are rotably connected to each other via a joint
- Lined inside with felt to protect the OTA
- CNC machined from high quality aluminum and stainless steel alloys



APQ 167mm Mounting Rings (Pair)

APQ 300mm Dovetail Plate (Losmandy Type) — Specification

- Suitable for APQ 167mm Mounting Rings
- Fits all 3" (Losmandy Type) dovetail clamps
- Two safety screws at the ends prevent the OTA from slipping
- CNC machined from high quality aluminum alloy



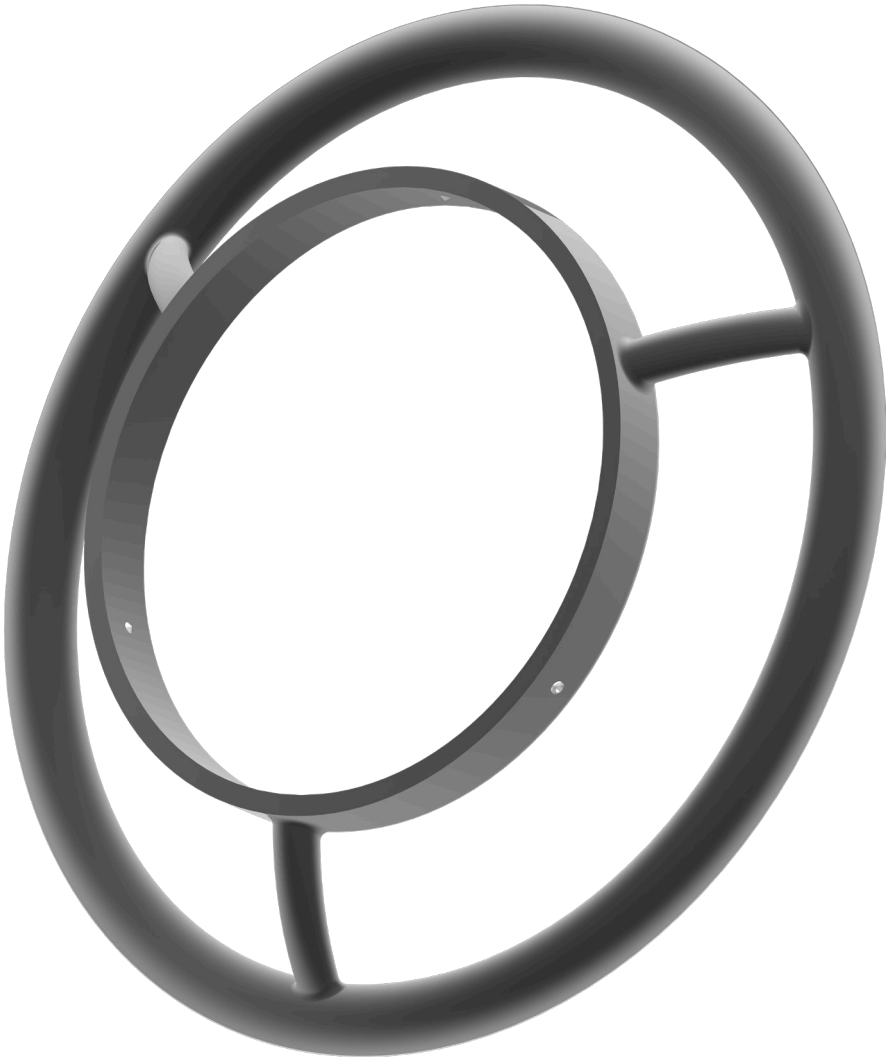
APQ 300mm Dovetail Plate (Losmandy Type)

APQ 300mm Carrying Handle — Specification

- Suitable for 167mm Mounting Rings in connection with an APQ 300mm Dovetail Plate
- Enables a safe installation and facilates the transport of the OTA
- Made of high quality aluminum alloy

APQ 210mm Steering Wheel — Specification

- Suitable for APQ 150/1200 Polychromat
- Improves handling during observation
- Made of high quality aluminum alloy



APQ 210mm Steering Wheel

Memo

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