

Large RC Telescopes

Telescope, Mount & Optic
Options up to 2.5 m (100 inch)



ASA ASTROSYSTEME AUSTRIA is a vertically integrated telescope manufacturer with a global presence. We oversee every aspect of our astronomical product development including design, fabrication, manufacturing, and testing. Our services, guaranteed to the highest standards, include ...

- ★ Fabrication and testing
- ★ Interferometric metrology
- ★ Optical Design and development
- ★ Mechanical and system design
- ★ Software engineering and support
- ★ Remote support
- ★ CNC machining
- ★ Global installations/assembly
- ★ ASA telescope packages
- ★ Telescope systems up to 2.5 m (100 inch)
- ★ Ground stations ...

All work performed by the ASA team of experts!

ASA LARGE RC TELESCOPES 600 – 2500 (2,5 m)

ASA600 ASA800 AZ800 EQ800 AZ1000 EQ1000
AZ1200 AZ1500 AZ1750 AZ2000 AZ2500



ASA600 f7

ASA600 OTA is the perfect fit for the ASA direct drive mounts with absolute encoders. As all ASA telescopes the ASA600 is equipped with quartz glass optics from ASA. Our optics guarantee diffraction limited performance and best micro roughness numbers even under the most perfect earthbound astronomical seeing conditions while maintaining a fast f-ratio primary mirror design leading to less obstruction, higher contrast and a more compact system.

f7/f2.5 full carbon Richey-Chrétien design with absolute encoder secondary mirror focusing unit.



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RC600_2

The RC600_2 package combines the RC600 OTA with our high-weight capacity DDM200 mount. This robust system can optionally be used in Twin Mode (multiple systems on one mount).



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RC600_1

The RC600_1 package combines the remarkable RC600 OTA with our compact DDM100 mount. The RC600_1 represents the pinnacle of high performance and high-value.



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ASA800 f6.85

The ASA800 0.8m is the largest aperture OTA offered from ASA without mount. Perfect fit for the ASA direct drive mounts with absolute encoders. As all ASA telescopes the ASA800 is equipped with quartz glass optics from ASA. Our optics guarantee diffraction limited performance and best micro roughness numbers even under the most perfect earthbound astronomical seeing conditions while maintaining a fast f-ratio primary mirror design leading to less obstruction, higher contrast and a more compact system.

f6.85/f2.5 full carbon Richey-Chrétien design with absolute encoder secondary mirror focusing unit.



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ASA LARGE RC TELESCOPES 600 – 2500 (2,5 m)

ASA600 ASA800 AZ800 EQ800 AZ1000 EQ1000
AZ1200 AZ1500 AZ1750 AZ2000 AZ2500



RC800_5

The RC800_5 package includes the RC800 OTA and our DDM500 mount with 1100 lb. capacity! The result is our highest performance available in a package deal.



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AZ800 f6.85

The AZ800 Telescope System features a 0.8-meter (800mm) OTA and an ASA Alt/Az direct drive mount with absolute encoders and Nasmyth focus. As with all of our optics, the 800mm f/2.5 primary and matching secondary are fabricated and tested at our quality controlled optical facility in Austria.



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AZ800 f10

AZ800 is a 0.8m (800mm) fully automated observatory telescope system. Ritchey-Chrétien Alt-Az telescope f10 with Nasmyth focus and high-quality ASA optics. Direct Drive motors with absolute encoders on all axes.



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AZ1000 f7

The AZ1000 is a fully integrated 1-meter Alt-Az Observatory Telescope System equipped with quartz glass optics. Our precision ground optics guarantee diffraction limited performance with the finest micro-roughness figures available. The AZ1000's fast primary mirror ensures a compact OTA with lower secondary obstruction and higher contrast images than competitive models. 1000mm f2/f7 Ritchey-Chrétien Nasmyth design with absolute encoder secondary mirror focusing unit, and configurable with up to 4 Nasmyth.

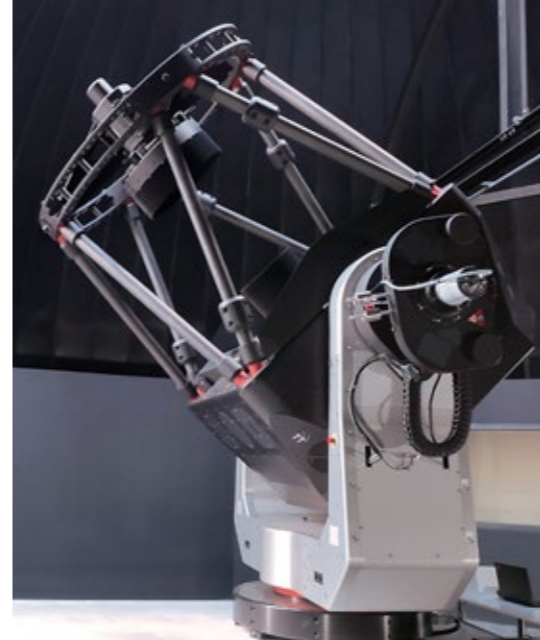
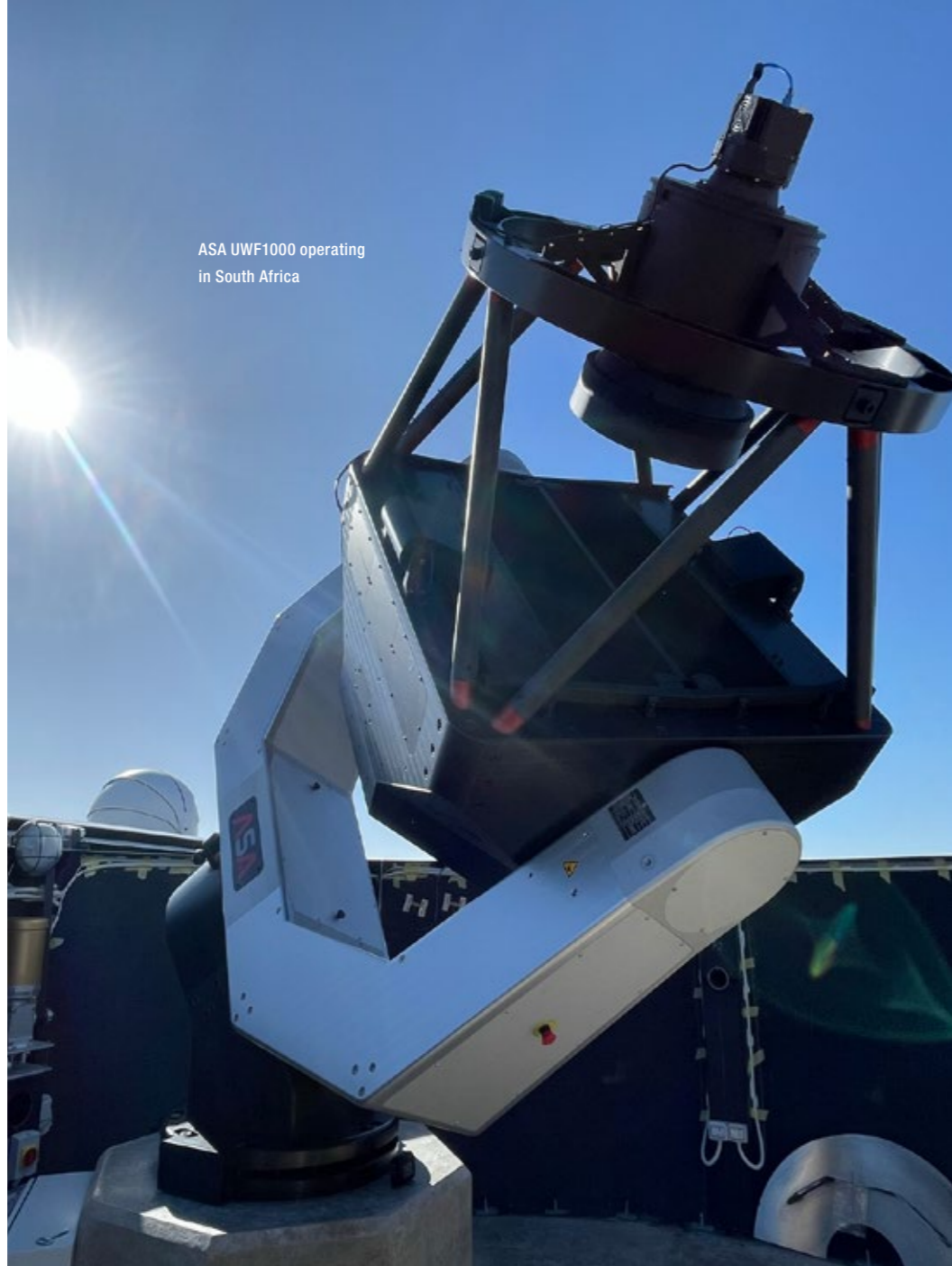


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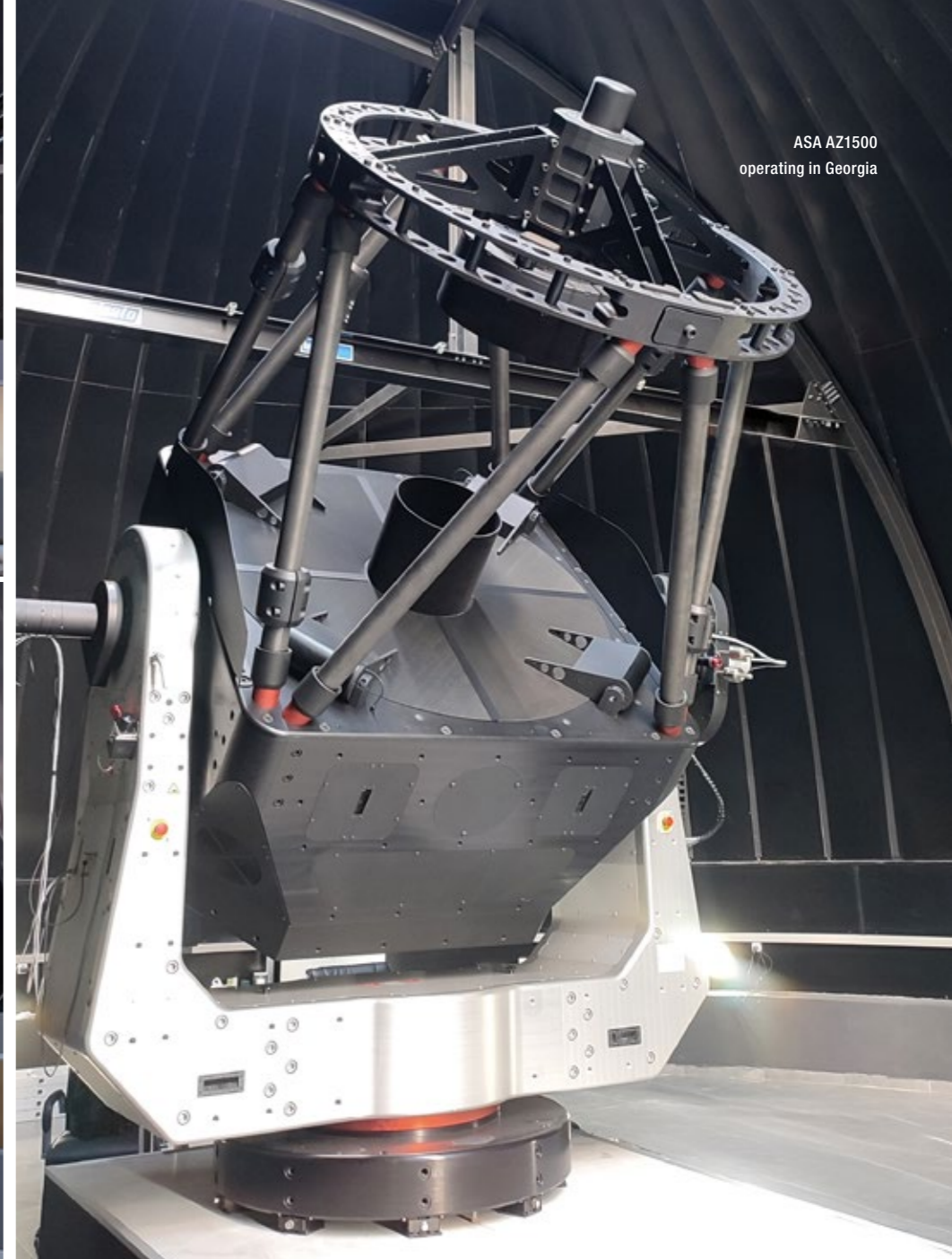
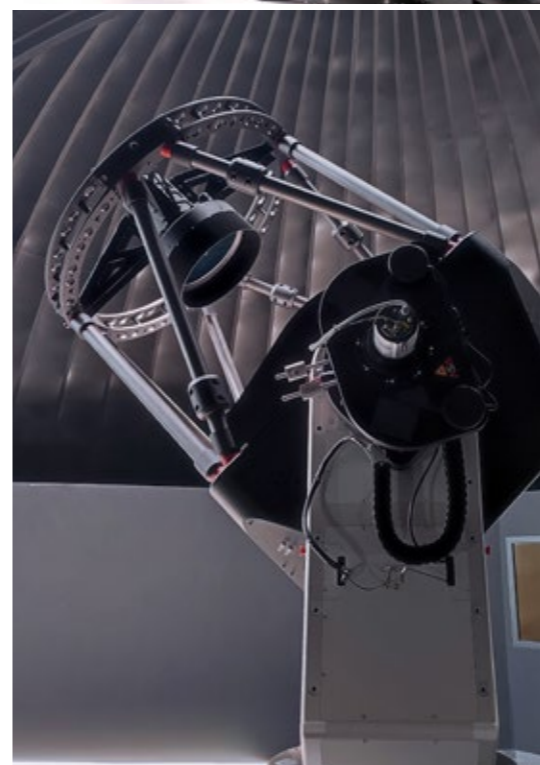




ASA UWF1000 operating in South Africa



ASA AZ1500 operating in Georgia



ASA IMPRESSIONS

Ready for more? 



ASA AZ1000 operating in Spain



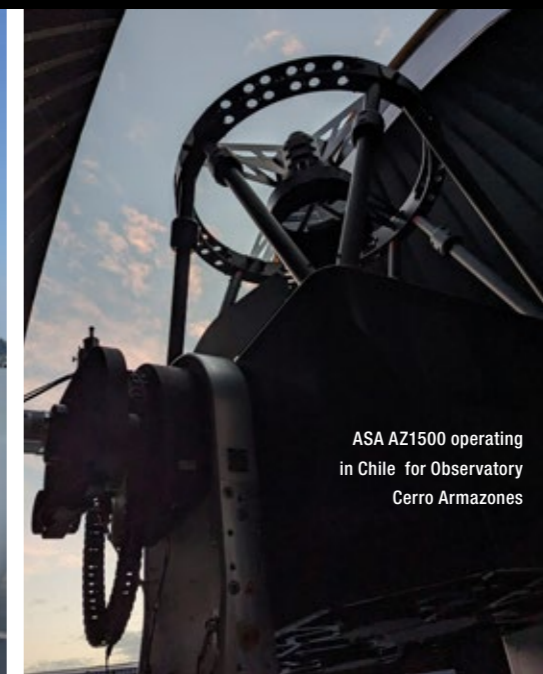
ASA UWF1000 operating in Spain



Photo credits: J.C. Casado & TST Team / Lights Bridges S.L. Vor



ASA AZ1000 and ASA UWF300 operating in Switzerland



ASA AZ1500 operating in Chile for Observatory Cerro Armazones



ASA AZ800 operating in Chile for Observatory Cerro Armazones

ASA LARGE RC TELESCOPES 600 – 2500 (2,5 m)

ASA600 ASA800 AZ800 EQ800 AZ1000 EQ1000
AZ1200 AZ1500 AZ1750 AZ2000 AZ2500



Telescope System

EQ1000 f6.76

The EQ1000 is ASA's 1-meter (1000mm) Equatorial Ritchey-Chrétien Telescope System. This compact design has a small secondary obstruction, providing higher contrast images than competitive models.



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Telescope System

AZ1200 f7

The AZ1200 1.2-meter Telescope System is a fully integrated Alt-Az design equipped with quartz glass optics. Our precision ground optics guarantee diffraction limited performance with the finest micro-roughness figures available. The AZ1200's fast f/2 primary mirror ensures a compact OTA with lower secondary obstruction and higher contrast images than competitive models. The versatile Ritchey-Chrétien design includes a secondary mirror focusing unit with absolute encoders. Dual Nasmyth standard. Quad Nasmyth focus available.



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ASA AZ1500 operating in Chile for Observatory Cerro Armazones



Observatory in Chile with AZ1500/AZ800/ASA600 and Dome

AZ1500 f6

The AZ1500 is ASA's fully integrated Alt-Az Observatory System supplied with quartz glass optics from our optical lab. As always, we guarantee diffraction limited performance with the best micro-roughness figures available. The AZ1500's fast primary mirror ensures a compact design with small secondary obstruction and subsequently, higher contrast images. Our compact design minimizes the size and cost of your dome infrastructure. 1500mm f2/f6 Ritchey-Chrétien Nasmyth design with absolute encoder secondary mirror focusing unit, and configurable with up to 4 Nasmyth ports.



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Telescope System

ASA LARGE RC TELESCOPES 600 – 2500 (2,5 m)

ASA600 ASA800 AZ800 EQ800 AZ1000 EQ1000
AZ1200 AZ1500 AZ1750 AZ2000 AZ2500



AZ2000 f6

The AZ2000 is ASA's fully integrated Alt-Az Observatory System supplied with quartz glass optics from our optical lab. As always, we guarantee diffraction limited performance with the best micro-roughness figures available. The AZ2000's fast primary mirror ensures a compact design with small secondary obstruction and subsequently, higher contrast images. Our compact design minimizes the size and cost of your dome infrastructure. 2000mm f2 f6 Ritchey-Chrétien Nasmyth design with absolute encoder secondary mirror focusing unit, and configurable with up to 4 Nasmyth ports.



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Telescope System



ASA AZ1750 and Dome operating in Germany at German Aerospace Center (DLR)

ASA AZ1750 testing at ASA Headquarters in Austria

AZ2500 f6

The AZ2500 currently represents ASA's largest available aperture. This 2.5-meter behemoth is a complete fully integrated Alt-Az Observatory Telescope System. The AZ2500 features fully machined ASA components and diffraction limited optics that are designed, fabricated and tested in our on-site optical laboratory. As with other ASA systems, the AZ2500 fast primary mirror ensures a compact design with a small secondary obstruction and subsequently - higher contrast images. Our compact design in turn minimizes the size and cost of your dome infrastructure. 2500mm f2 f6 Ritchey-Chrétien Nasmyth design with absolute encoder secondary mirror focusing unit, and configurable with up to 4 Nasmyth ports.



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Telescope System

AZ1750 f6

The AZ1750 is ASA's fully integrated Alt-Az Observatory System supplied with quartz glass optics from our optical lab. As always, we guarantee diffraction limited performance with the best micro-roughness figures available. The AZ1750's fast primary mirror ensures a compact design with small secondary obstruction and subsequently, higher contrast images. Our compact design minimizes the size and cost of your dome infrastructure. 1750mm f2/f6 Ritchey-Chrétien Nasmyth design with absolute encoder secondary mirror focusing unit, and configurable with up to 4 Nasmyth ports.



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Telescope System

ASA FAST TELESCOPES 300 – 1000

UWF300 UWF600 UWF800 UWF1000
WF1000 H400* (Hyperbolic)



UWF300 f1.3

The UWF300 f1.3. telescope offers a groundbreaking optical design and is ideal for short exposure, high SNR wide field surveys. The main mirror works with absolute encoder feedback and can be collimated fully electronic for an easy and fast remote collimation.



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UWF300_1

The UWF300_1 package combines the highly-corrected 300mm f1.3 UWF OTA with our outstanding DDM100 mount. This groundbreaking optical design is ideal for short exposure, high SNR wide field surveys. The main mirror works with absolute encoder feedback and can be collimated fully electronic for an easy and fast remote collimation. The DDM100 direct-drive mount is a precision platform ready for fully automated imaging.



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UWF600 f1.7

The UWF600 Astrograph has a super-fast 1.7 f-ratio, ideal for short exposure high SNR wide field surveys, possible to be combined on extra order with the ASA DDM200 Direct Drive mount fitted with absolute encoders.

The main mirror and the corrector can be collimated fully electronic to allow an easy and fast remote collimation. The focuser works with absolute encoder feedback.

It is the perfect system for fully automated imaging operation.



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UWF600_2

The UWF600_2 combines the super-fast 600mm f/1.7 UWF OTA with our heavy-duty DDM200 mount. This large aperture system is ideal for short exposure, high SNR widefield surveys. It can be optionally upgraded with a second optical tube assembly when used in Twin Mode. Features an aspherical optic design.



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ASA600 and DDM500
operating in Namibia



ASA800 and DDM500
operating in Israel



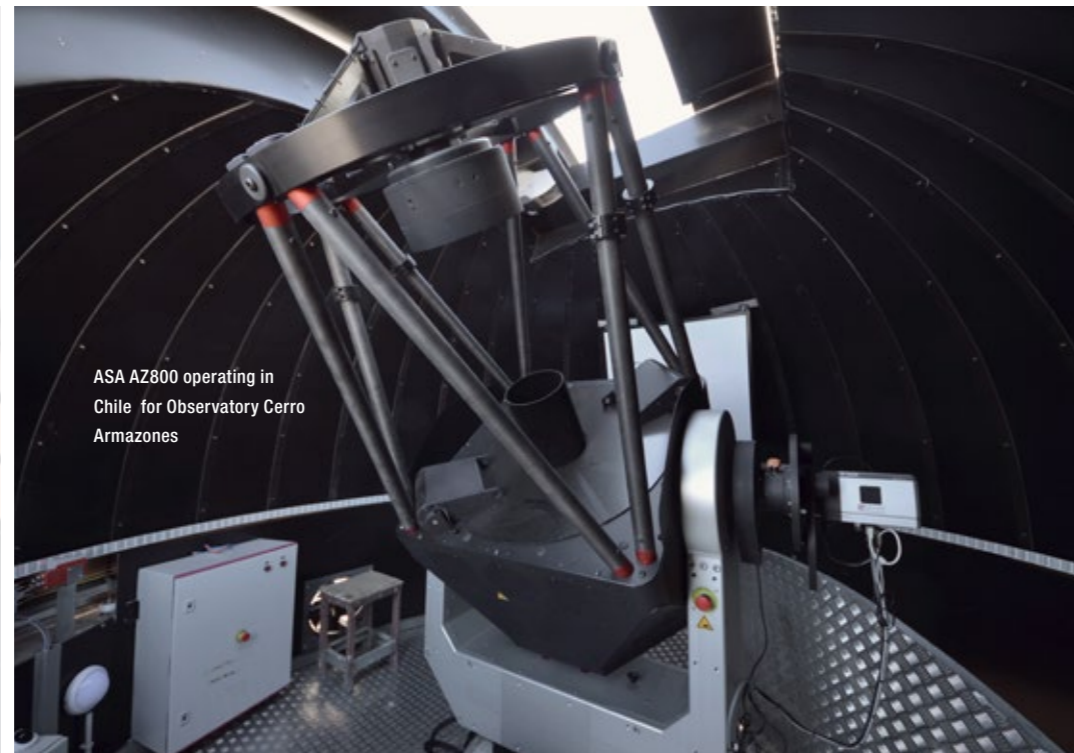
ASA UWF600
operating in China, Tibet



8x ASA H400 and
DDM500 operating in
Australia and Spain



ASA AZ800 operating
in Switzerland



ASA AZ800 operating in
Chile for Observatory Cerro
Armazones



ASA UWF300 and DDM100
operating in Austria



ASA IMPRESSIONS

Ready for more? 



ASA AZ800 operating
in Dubai



ASA800 and DDM200 operating
in Chile for Observatory Cerro
Armazones



ASA 600 operating
in Germany for
University Unterföhring



ASA AZ1750 and
ASA UWF300 operating
in Germany, Empfingen



ASA600 and DDM200
operating in China

ASA FAST TELESCOPES 300 – 1000

UWF300 UWF600 UWF800 UWF1000
WF1000 H400* (Hyperbolic)

Ready for more?



ASA UWF1000 operating in South Africa



Package

UWF600_2+

The UWF600_2+ package features two super-fast 600mm f1.7 UWF OTAs and our precision DDM200 mount in Twin Mode. It is the perfect system for fully automated high-end imaging operation. This system is ideal for short exposure, high SNR widefield surveys.



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WF1000 f2.5

The WF1000 f2.5 telescope is the ideal platform for wide field imaging and all-sky surveys. The WF1000 f2.5 features a 5-lens corrector and motorized focusing with absolute encoders. The main mirror can be collimated fully electronic to allow an easy and fast remote collimation. The WF1000 ensures precise focus and high-resolution data acquisition of the night sky – in the shortest possible time!



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Telescope System

UWF1000 f1.3

The UWF1000 f1.3 telescope is the ideal platform for wide field imaging and all-sky surveys. The UWF1000 f1.3 features a highly aspheric 5-lens corrector and motorized focusing with absolute encoders. The main mirror and the corrector can be collimated fully electronic to allow an easy and fast remote collimation. The UWF1000 ensures precise focus and high-resolution data acquisition of the night sky – in the shortest possible time!



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Telescope System

ASA FAST TELESCOPES 300 – 1000

UWF300 UWF600 UWF800 UWF1000
WF1000 H400* (Hyperbolic)



H400 f2.4

The H400 f2.4 astrograph is the ideal platform for widefield imaging and all-sky surveys. The H400 features a 12,7 cm (5-inch) corrector and motorized focusing with absolute encoders. The H400 ensures precise focus and high-resolution data acquisition of the night sky – in the shortest possible time!



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H400_1

The H400_1 Telescope System combines the H400 f2.4 widefield astrograph with our DDM100 direct drive mount. For precision, the telescope focuser and mount axes feature our absolute encoder technology.

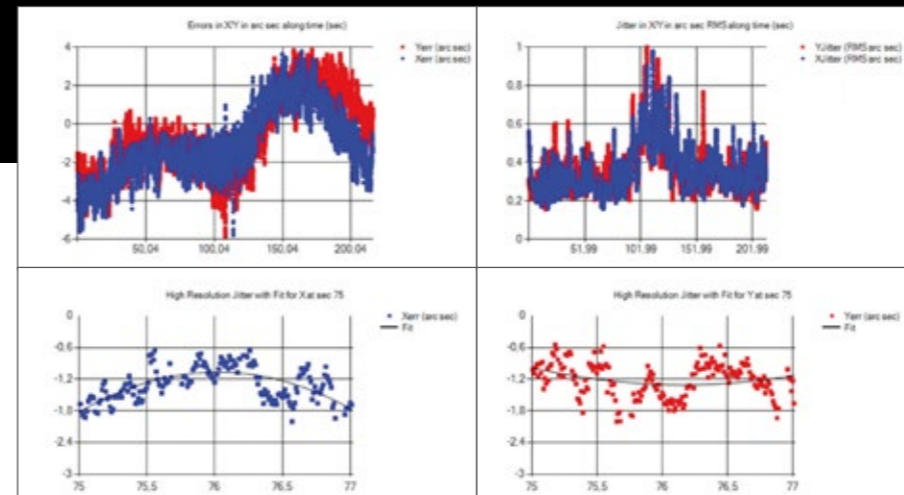


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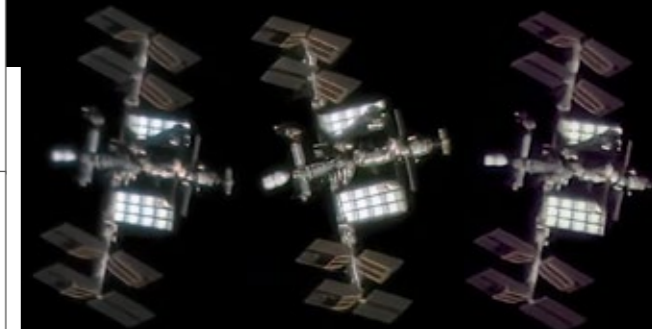
ASA OGS GROUND STATIONS 400 – 800

400 600 800

Jitter analysis



ISS with ASA AZ800 | watch the video



Apollon600 at ASA Headquarter in Austria

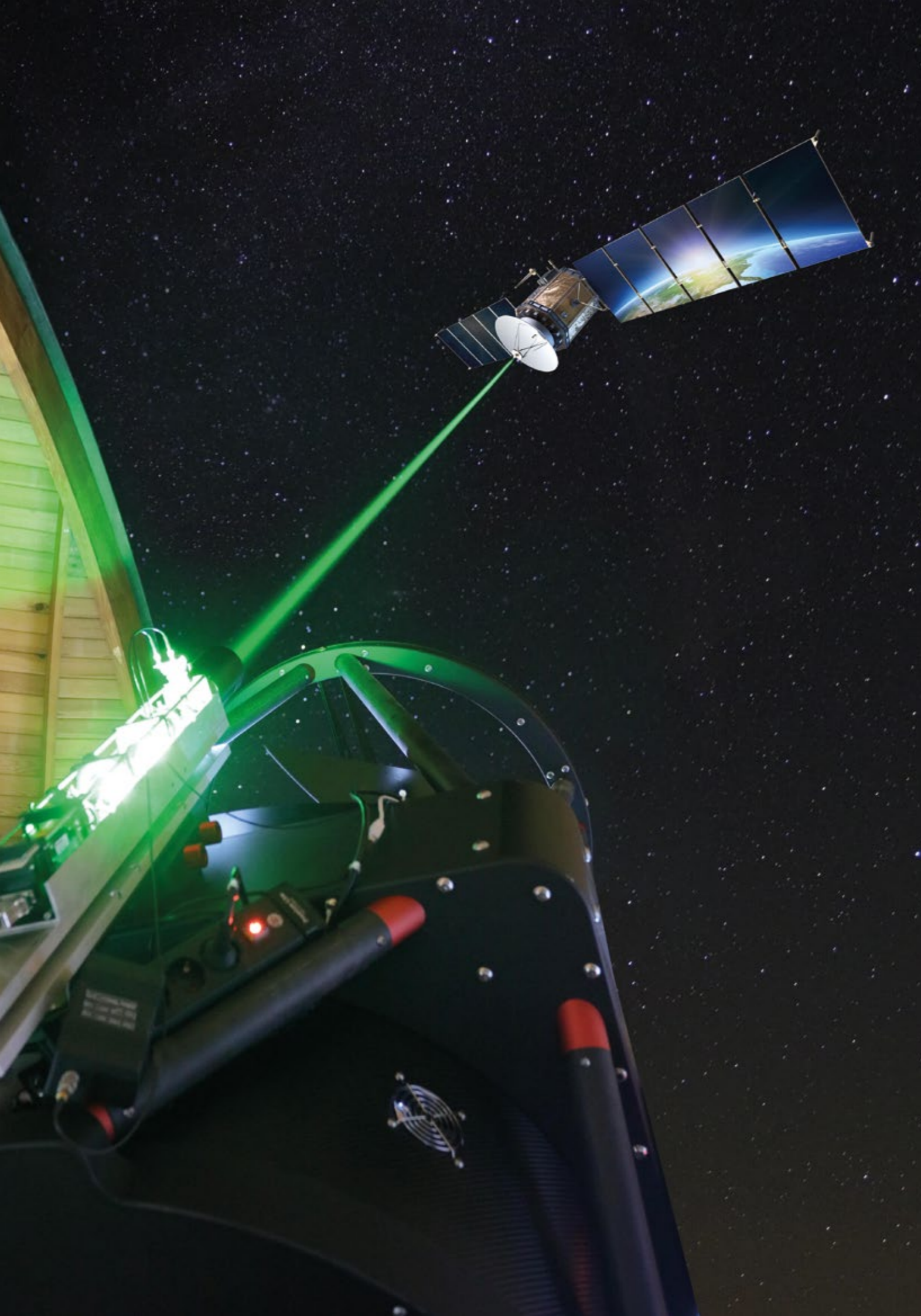


ASA OGS ALLOWS FSO COMMUNICATION

OGS - OPTICAL GROUND STATION
FSO - FREE SPACE OPTICAL

No other telescope company can currently execute complete solutions/Optical Ground Stations (OGS) with the speed and precision that we at ASA provide. This year, we have already produced and delivered 5 OGS.





ASA MOUNTS 100 – 500

DDM100 DDM200 DDM500

Ready for more? 



DDM100

New design based on 15 years of experience with Direct Drive mounts. Ready for the most demanding applications in pointing and tracking accuracy. Satellite tracking with optional software package. Load capacity of **100kg/220lbs** on a polar wedge.



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DDM200

This new design based on 15 years of experience with Direct Drive mounts. Ready for the most demanding applications in pointing and tracking accuracy, like laser communication, satellite tracking and general astronomical research. Load capacity of **200kg/440lbs** on a polar wedge.



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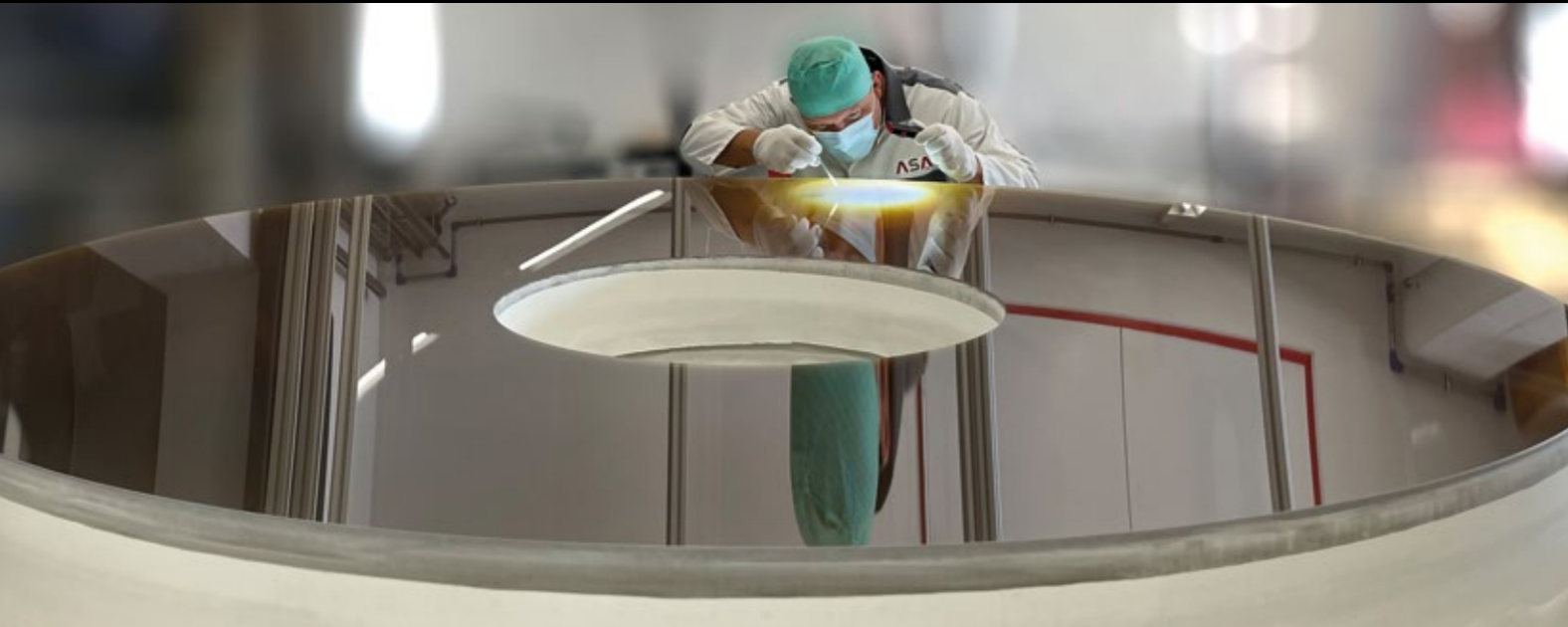


DDM500

Over 15 years of experience went into the design of the DDM500. Ready to carry large aperture telescopes with the highest level of pointing and tracking accuracy. Load capacity is **500kg/1100lbs** on a custom-built pier. The ASA DDM500 is the perfect workhorse for all areas of research ranging from astronomical observations to laser communication and satellite tracking.



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Fabrication of world-class optics is only possible with accurate feedback via high-quality testing. To this end, ASA has invested in the finest test equipment available! Our optical system utilizes a precision iterative process to remove measurable errors – allowing us to achieve the highest quality optical figures available.

With glass blanks in stock, we can produce up to 1 meter optics in less than 3 months from order to delivery!

Lenses can be made from any material available in Schott's glass catalog or CDGM. We welcome your inquiries.

ONLY THE BEST TELESCOPE OPTICS



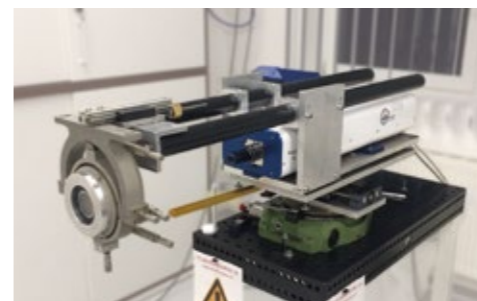
ASA decided to invest in our own optical production and the optics we produced are far better than anything we have obtained so far.

Our CNC machines work in the state of art polishing technique and it allows us to correct even surface errors like astigmatism to perfection. We are also able to produce any free form surfaces like off-axis parabola and even more complicated shapes.



WE HAVE SPECIALIZED IN ASPHERICAL OPTICS IN SIZES > 300 MM FOR

- ★ Astronomical telescopes
- ★ Lidar System
- ★ Telescopes for Laser Communication
- ★ Widefield Telescopes for Space Surveillance
- ★ Off-Axis mirrors (Laser Beam Focusing, Spectroscopy, Beam Expanders)
- ★ Collimators
- ★ On-Axis Parabolic mirrors (convex and concave)
- ★ On-Axis Hyperbolic mirrors (convex and concave)
- ★ Ellipsoids
- ★ Flats



Aligning CGH in front of phasecam



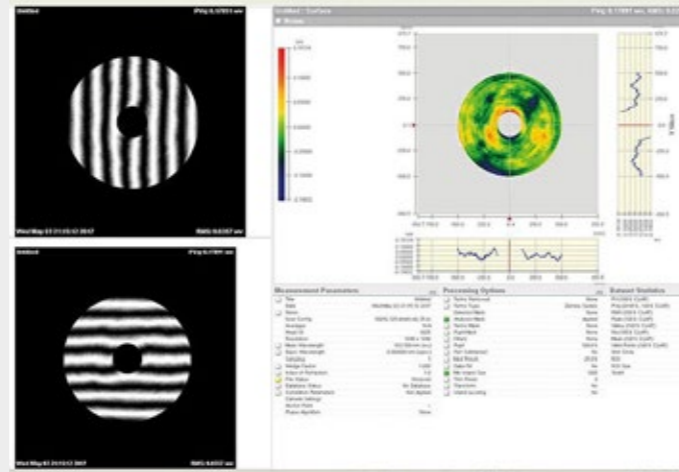
Mirror measuring room in St. Peter/Freistadt



Outstanding optical performance!

This 1000mm f1.8 mirror was produced using a multi-axis CNC-controlled processing center in conjunction with our high-quality testing process. The final mirror figures were ~2x better than specified by the customer.

Pixel sampling was 1.67 μm | Wavefront RMS is 23 nm | PV is 113 nm



Ritchey-Chrétien performance!

FACT-BASED EVALUATION: RC VS. CDK



RC & CDK Comparison



	ASA f7 f2.5 RC	CDK
On axis planetary performance without corrector	😊	not possible
On axis planetary performance with corrector	😊	😊
Off axis performance with corrector	😊	😊
Off axis performance without corrector	😊	😞
Central obscuration	😊	😞
Spectral range without corrector	😊	😞
Can be upscaled to very large fields	😊	😞
RC technology in affordable price/performance ratio	😊	😞

