

AccuFiz[®] Compact Fizeau Interferometers

- Easy-to-Use Versatile and Portable Design
- Temporal and Dynamic Measurement Operation
- Outstanding Performance with Extended Source Capability
- Multiple Long and Short Coherence Source Options
- Variety of Add-On Accessories Available
- Industry-leading 4Sight[™] Software

AccuFiz Compact Fizeau Interferometers

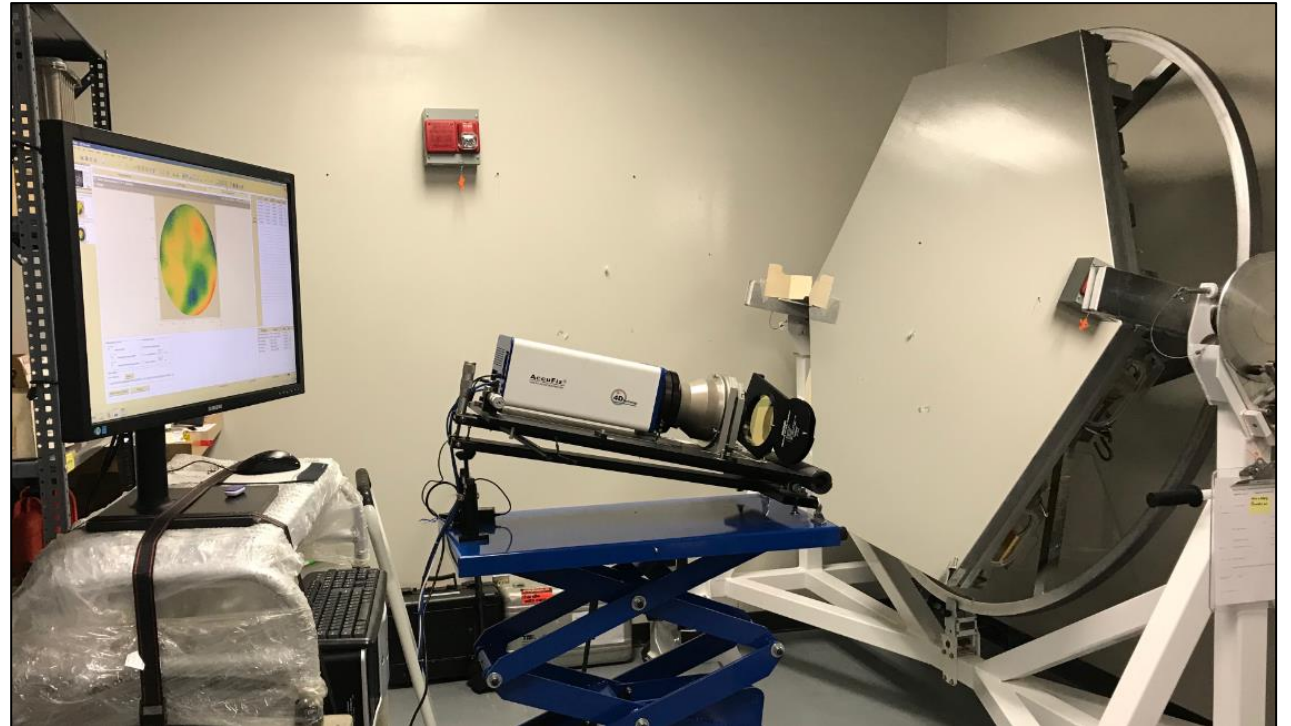
- Aperture Sizes: 100mm, 150mm, 200mm, 300mm, 450mm, 600mm
- Standard Wavelengths: 632.8nm, 532nm, 1053nm, 1064nm, 1550nm – all stabilized
- Detector Sizes: 1200x1200* (-E), 2400x2400 (-H), or 2000x2000 (-D)
- Temporal and Dynamic Phase Shifting Mode
- Extended Source for Outstanding Performance
- Variety of Transmission Optics Available
- Other Options:
 - Manual or Automated Surface Isolation for for Thin & Plane-Parallel Sample Measurements
 - Radius of Curvature Measurement Table Rail or 1m Vertical ROC Stand
 - Switchable Output Polarization Kit (Horizontal/Vertical/Circular)
 - Wired Hand Controller
 - Motorized Tip-Tilt Mount
 - High-Powered External Alignment Laser

**Coming Fall 2021:
3000 x 3000 Array Size!**



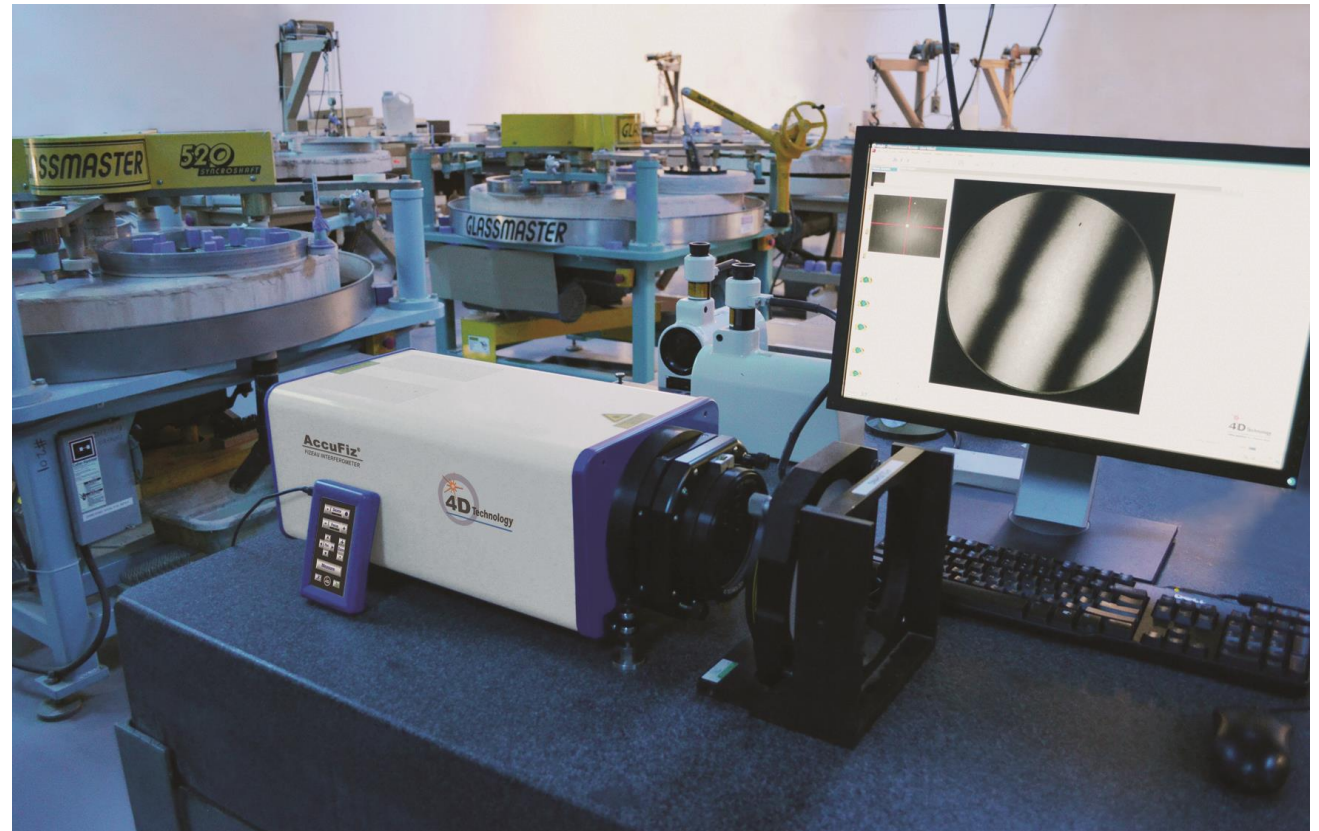
Extreme Versatility

- Smallest footprint Fizeau available
- Temporal and Dynamic phase shifting in one instrument
- Excellent spatial resolution and imaging performance
- Easy-to-use system controls including SmartZoom and source size control
- Easy-to-learn flexible software interface
- Compatible with existing transmission optics and beam expanders
- Add-on options for future expandability



AccuFiz Applications

- **AccuFiz is the 'Classic' Optical Shop Measurement System**
 - Flat Surface Topography
 - Concave/Convex Surface Shape
 - Transmitted Wavefront Characterization
 - Measure Optic Radius of Curvature
 - Glass Homogeneity Testing
 - Window Wedge Measurement
 - Corner Cube/Prism Qualification
 - Afocal System Characterization



AccuFiz Accessories

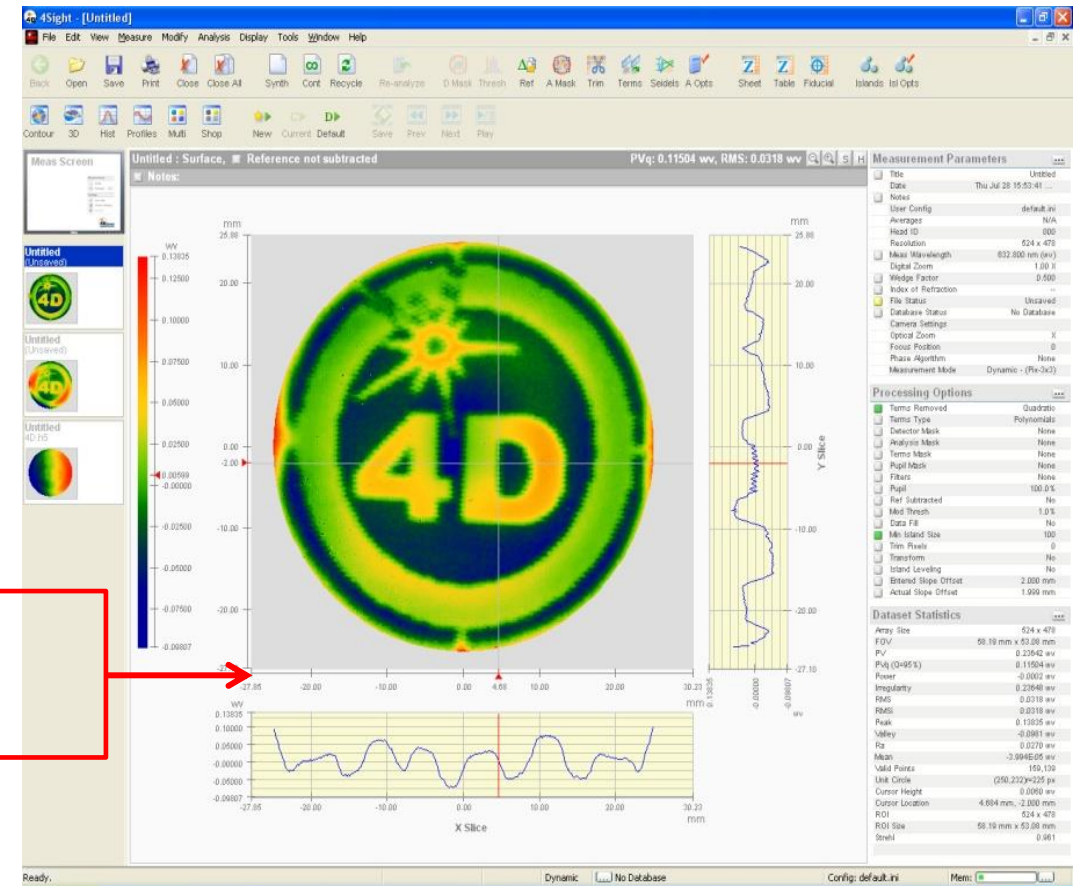
- **Full Selection of Reference Optics, Mounting Components and Accessories Available**
 - Transmission Flats and Spheres (F/0.65 – F/7.4)
 - Return Flats and Spheres (NA 0.06 – NA 0.7)
 - 2-axis and 5-axis Mounts
 - 3-Jaw, Bayonet and Rotation Adapters
 - Standard & Metric Adapter Plates
 - Pellicle Attenuators
 - Air Table Guiderails
 - Radius of Curvature Rails (Horizontal & Vertical)
- **AccuFiz compatible with all standard 3rd party Transmission Flats and Spheres**



Easy to Use

Wired and On-Screen System Controller

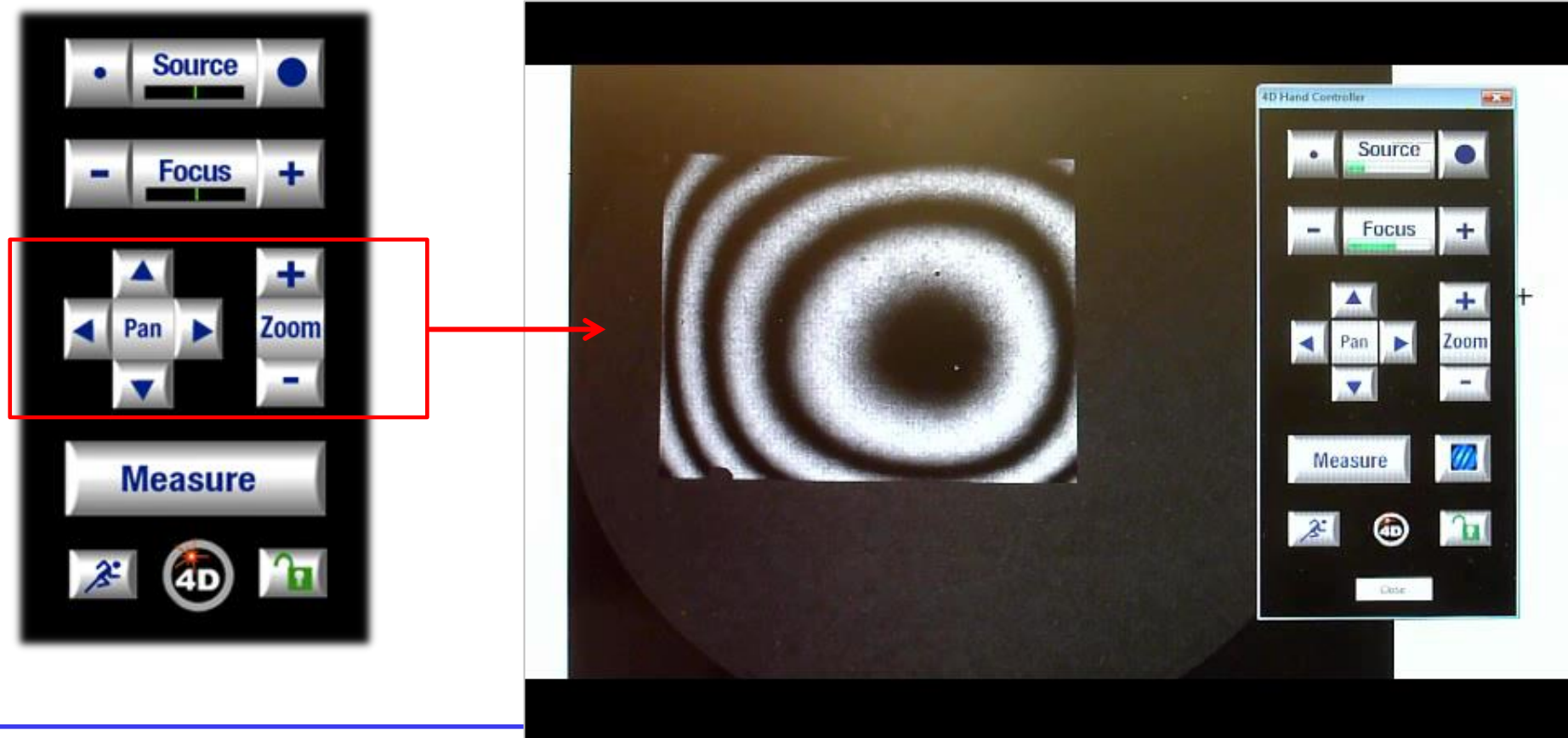
- **Handheld touch-screen controller**
- **Single button measurement**



SmartZoom for Unmatched Imaging Performance

SmartZoom Controls

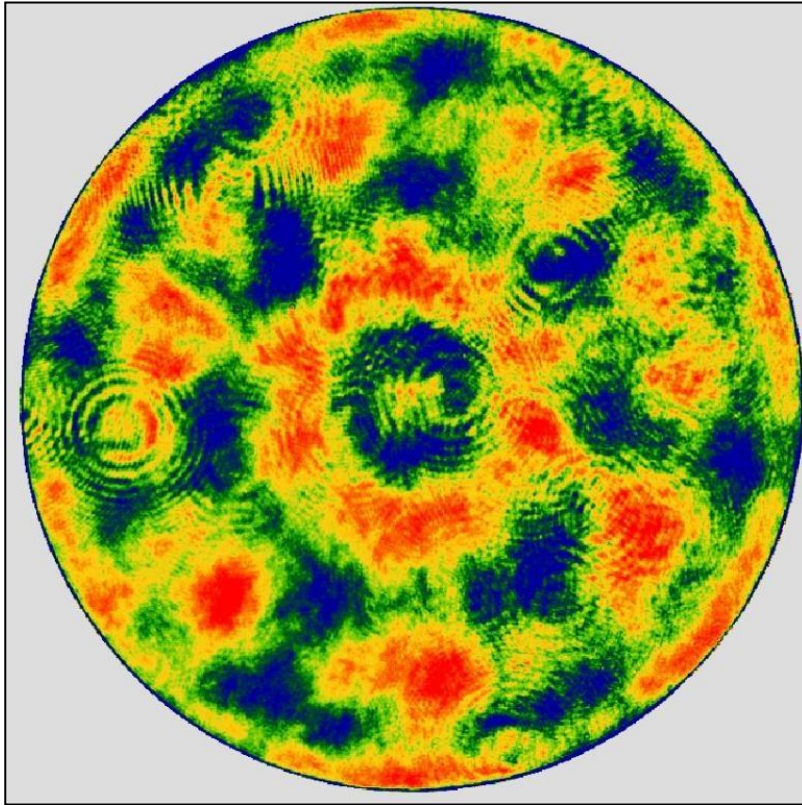
- Magnify and center image independently
- Repeatable lateral resolution at all zoom settings



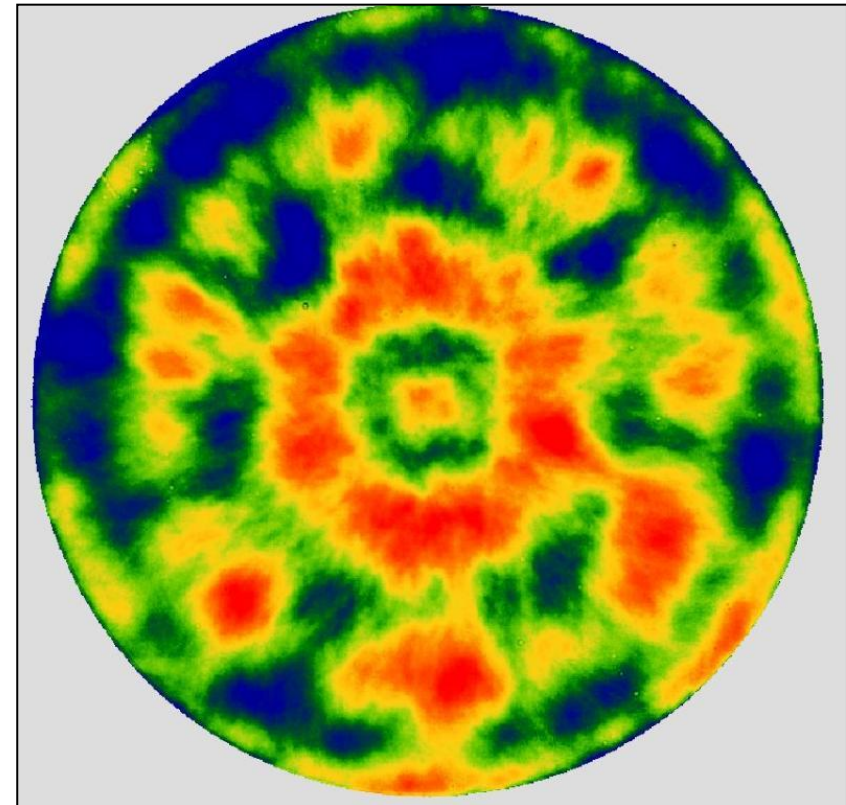
Mitigation of Coherence Effects

Extended Source Reduces Coherent Artifacts

Point Source - Coherence Effects



Extended Source – Coherence Effects Mitigated

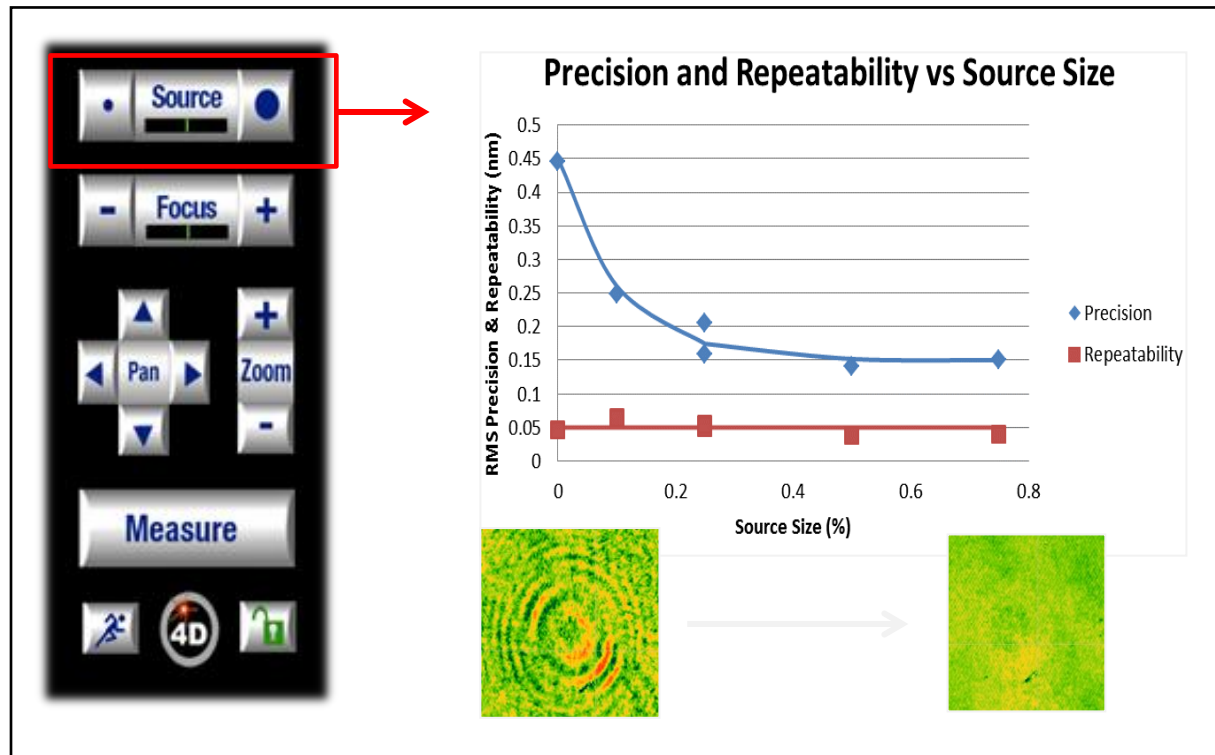


Extended source maintains test measurement integrity

Outstanding Performance

Adjustable Extended Source Improves Measurement

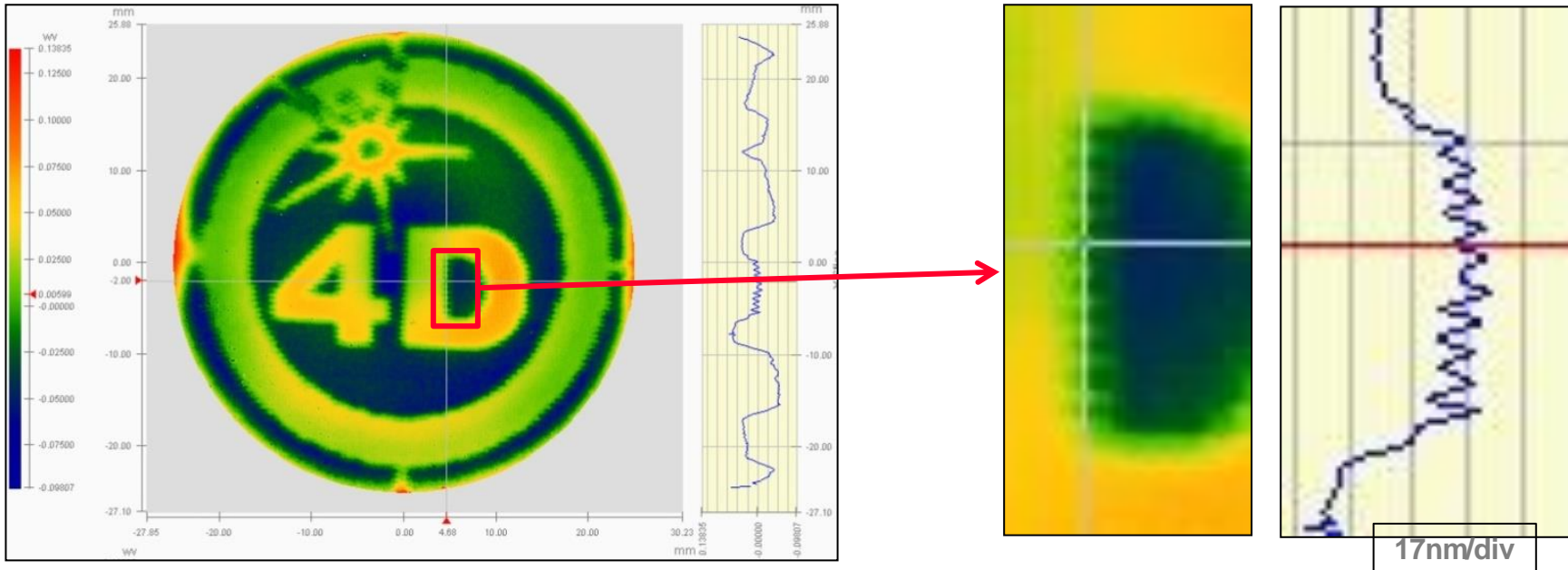
- **RMS Repeatability: 4x improvement with extended source**
- **RMS Precision: 2x improvement with extended source**



AccuFiz Performance	RMS Repeatability (wv)	RMS Precision (wv)
Point Source	0.0002	0.001
Extended Source	0.00005	0.0005

Outstanding Imaging Performance

- High spatial resolution, diffraction-limited imaging system
- Unparalleled accuracy at mid-spatial frequencies
- No optical zoom incorporated to degrade imaging performance (ITF)
- Measure polishing artifacts that other interferometers miss

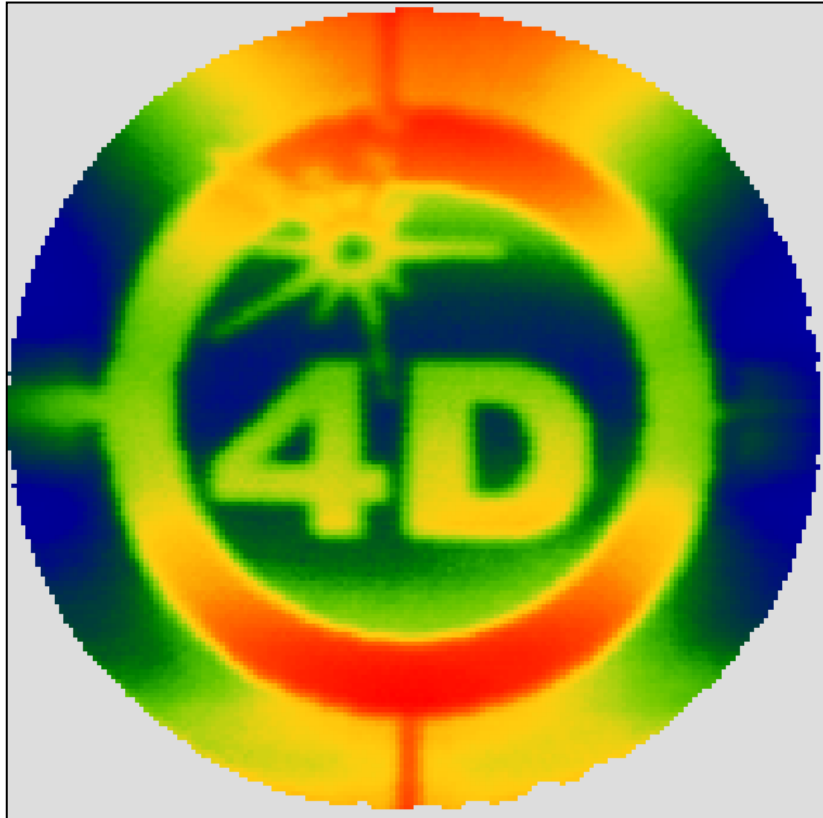


Ripple marks from fluid-jet polished logo, $\sim 500 \mu\text{m}$ spatial period, 10nm PV

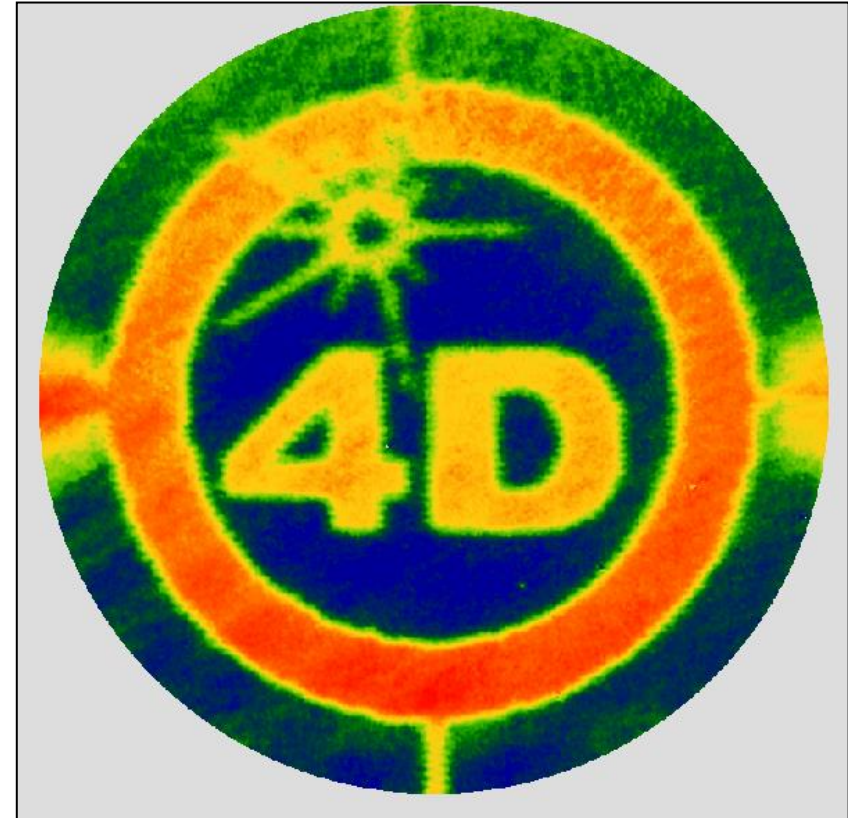
Waterjet Raster-Polished 65mm Glass Sample

AccuFiz Imaging is Superior

Competitor Measurement: Optically zoomed up



AccuFiz E-100S Measurement: No optical zoom



Applications: Mid-Spatial Frequency Surface Structure

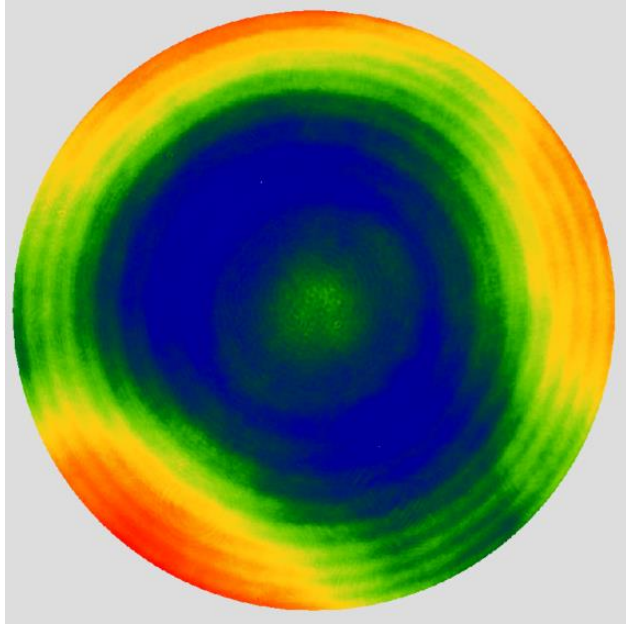
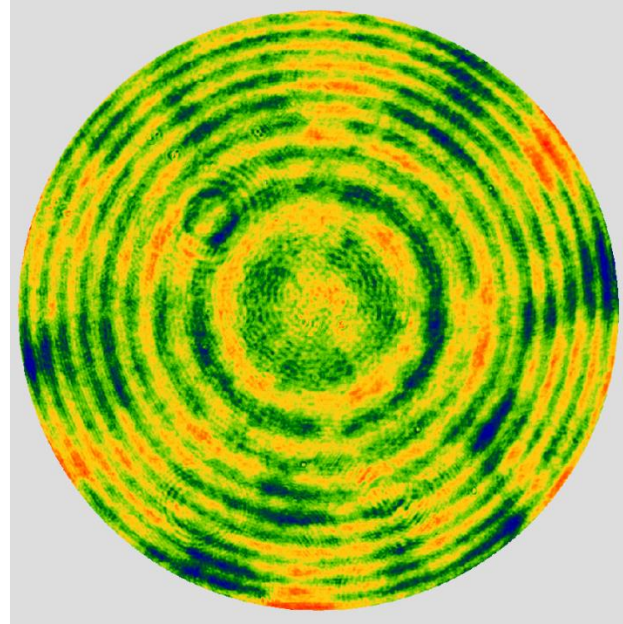
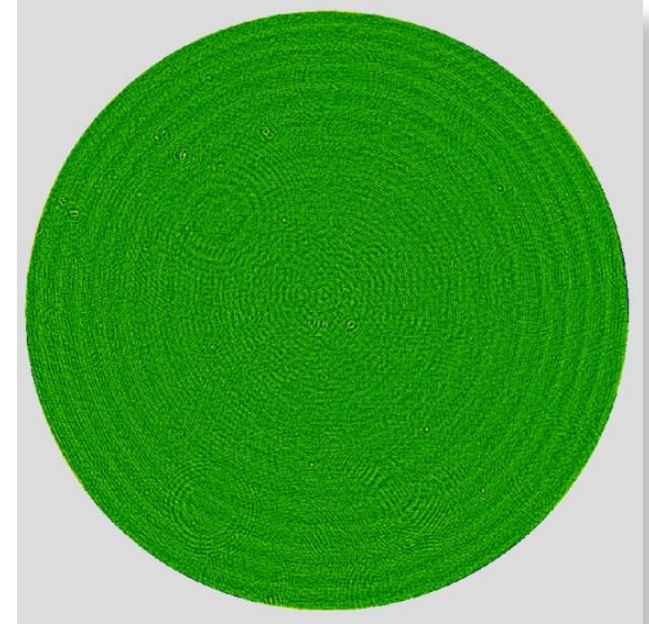


Figure
 $R_q = 49\text{nm}$



Mid-Spatial Frequencies
 $R_q = 5.5\text{nm}$

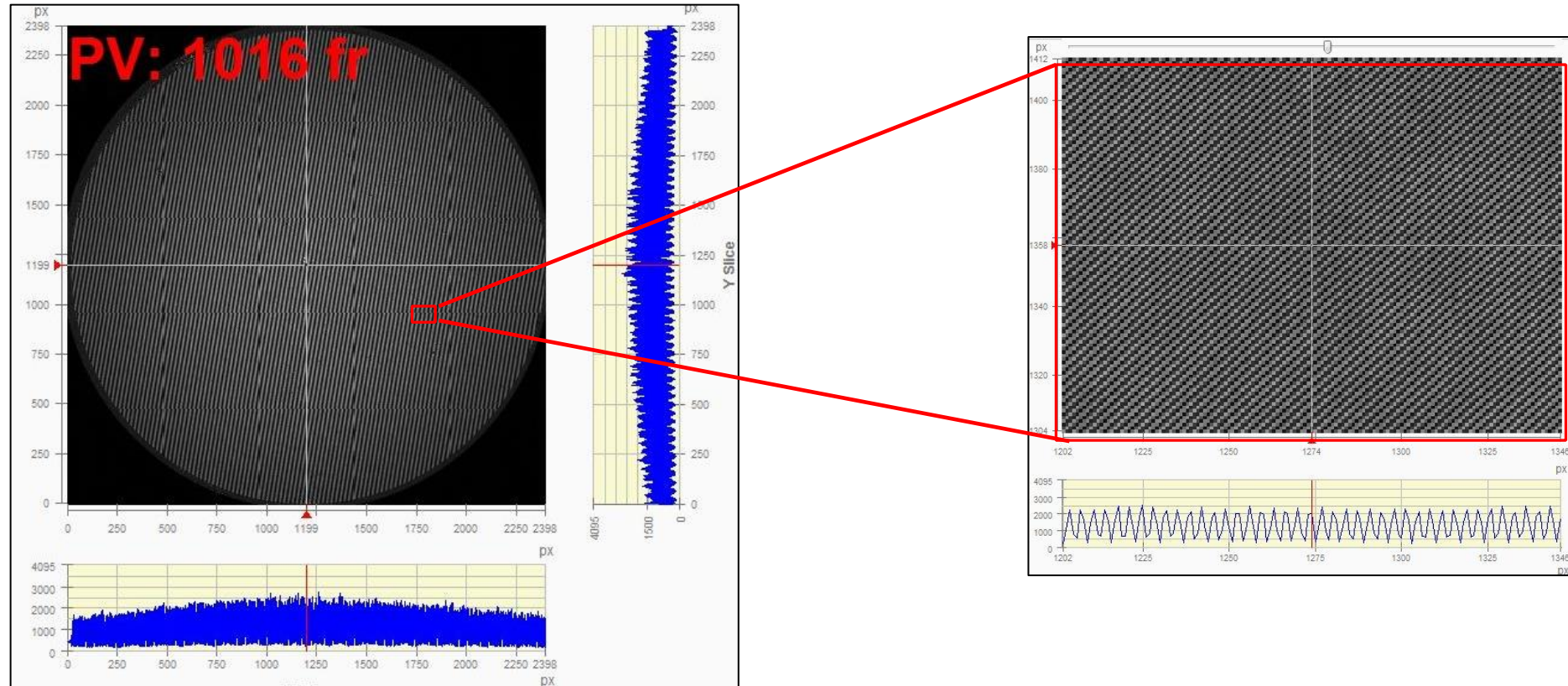


Roughness
 $R_q = 0.5\text{nm}$

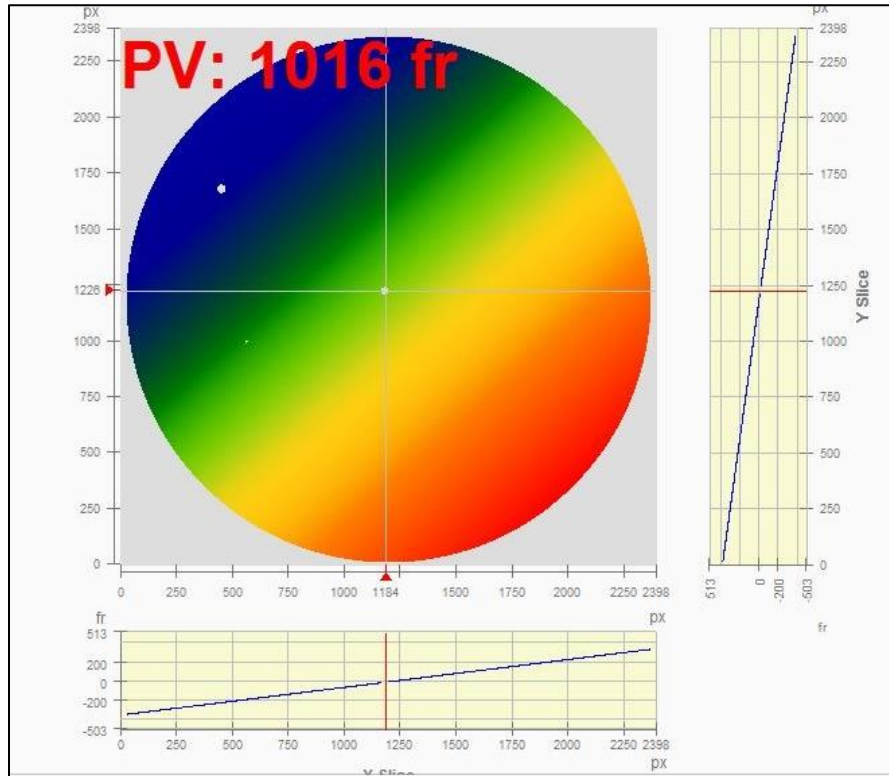
AccuFiz excels at mid-spatial frequency measurements

High Resolution AccuFiz: Accommodating Large Sample Tilts

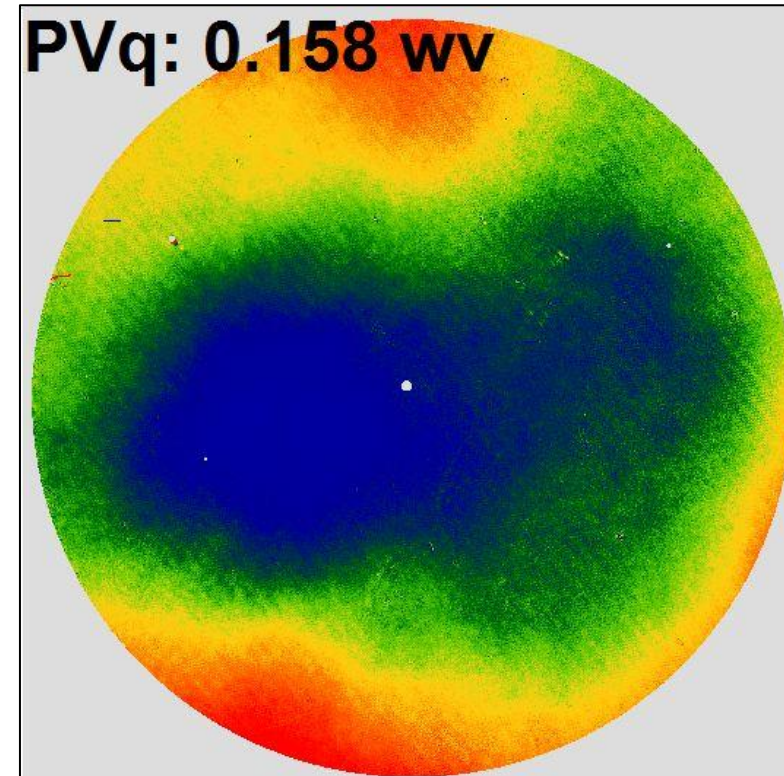
- 2400x2400 AccuFiz can measure >1000 fringes of tilt



High Resolution AccuFiz: 1000+ Fringe Tilt Measurement

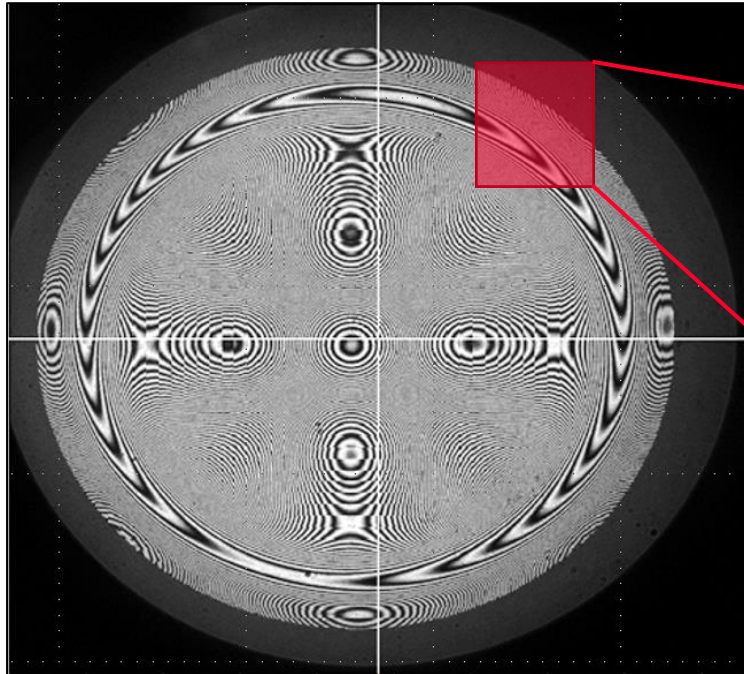


Raw Measurement

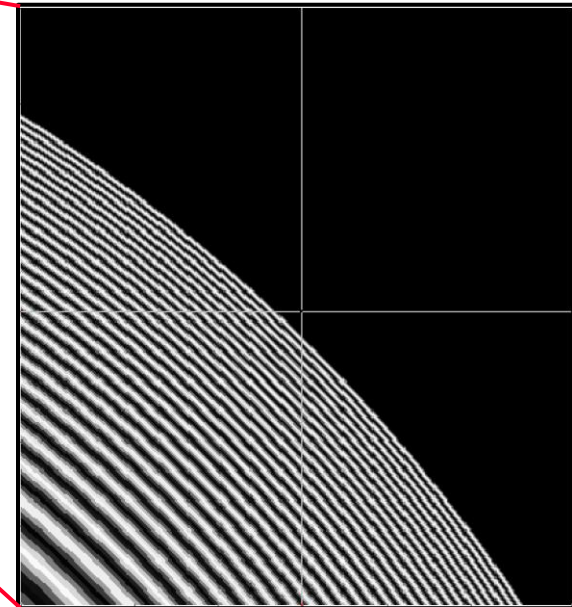


Tilt removed

High Resolution AccuFiz: Measuring Aspheres



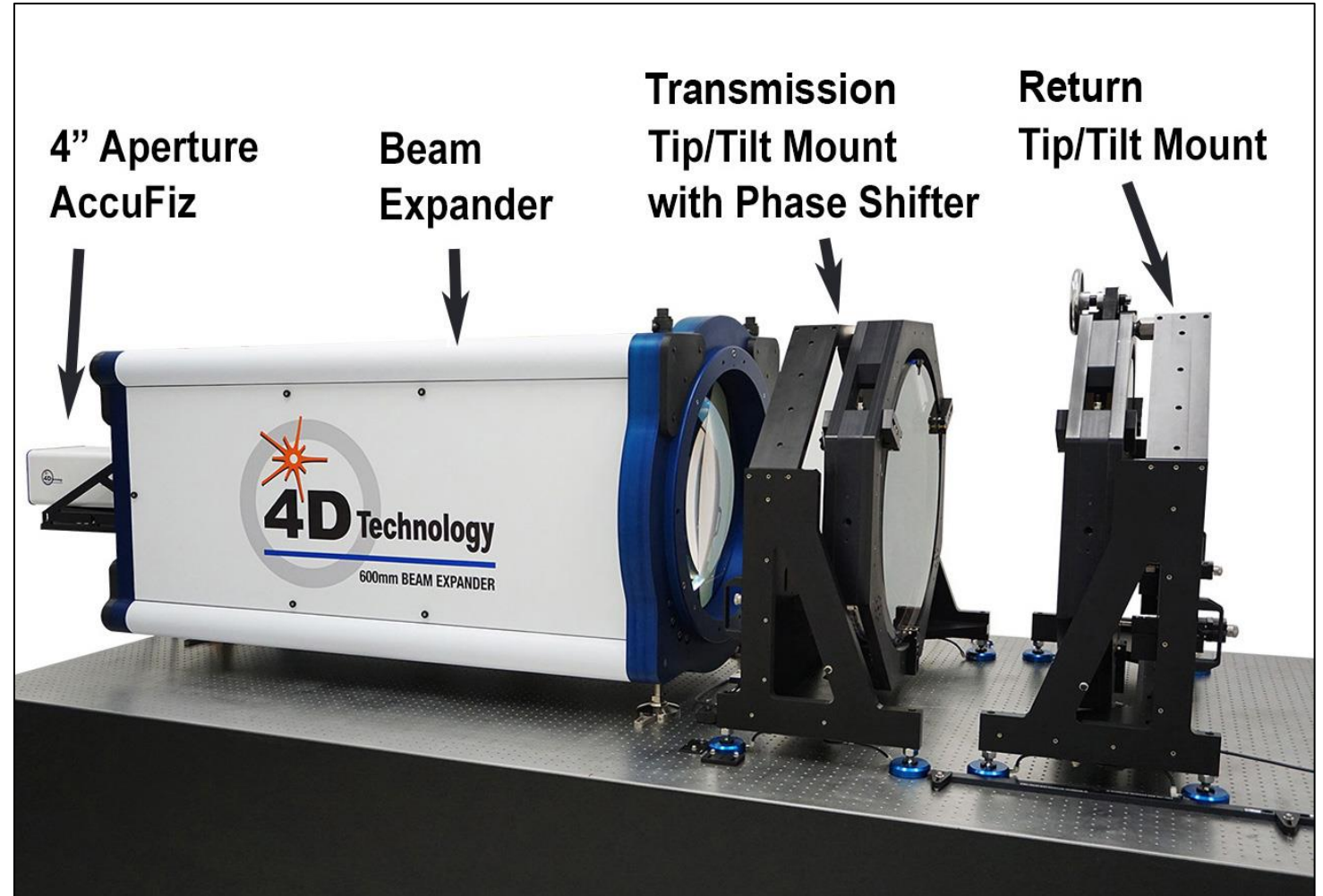
Fringes appear aliased



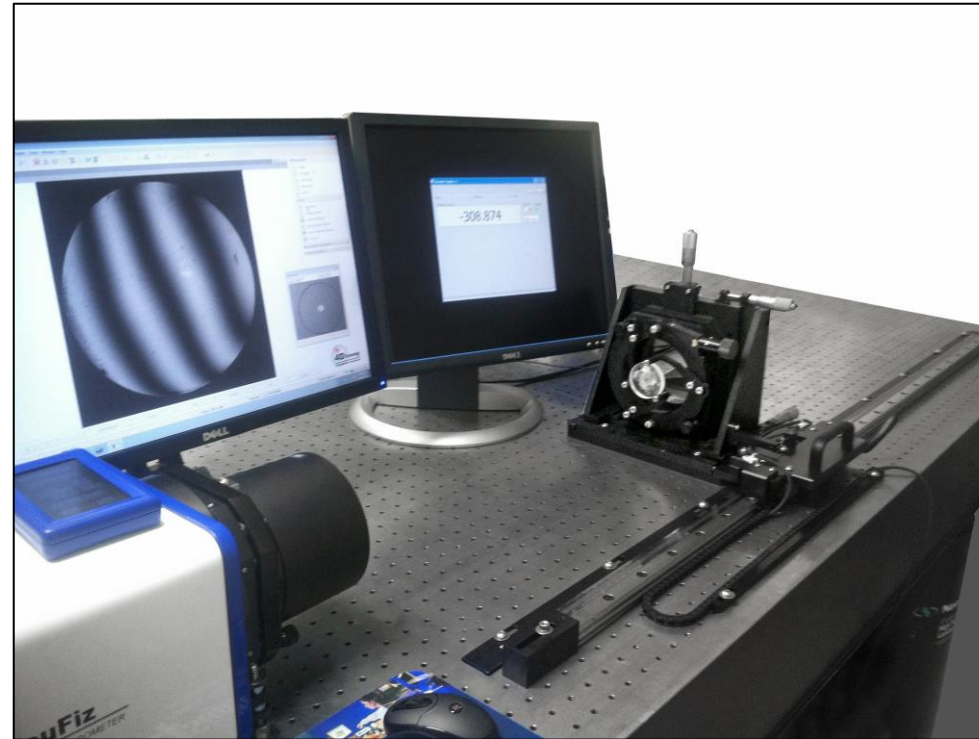
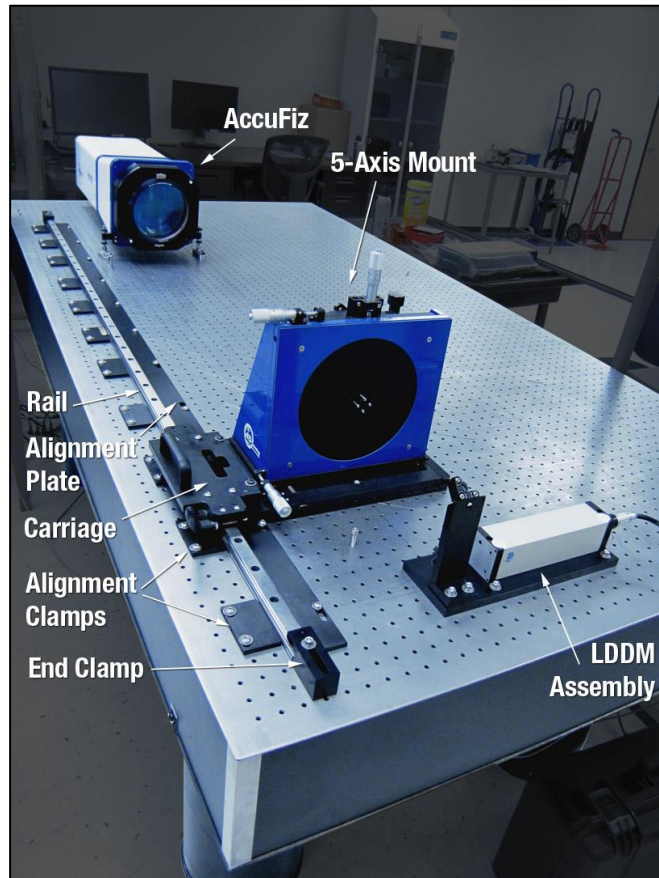
Zooming up reveals they are not!

Large Aperture AccuFiz: 300mm, 450mm, 600mm

- Kinematic mounting permits the AccuFiz to be simply removed and used as a benchtop interferometer, while maintaining proper system-to-expander alignment
- Mechanical phase-shifting is incorporated into the transmission mount
- Mount-integrated pneumatic bearings allow easy one-person alignment



AccuFiz: Digital Radius Slide Configurations



- 1m and 2m horizontal radius of curvature options, 1m vertical encoded stand



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- **Engineering and Manufacturing Excellence**
- **Dedication to Quality and Customer Support**

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