

# Applications of SSI

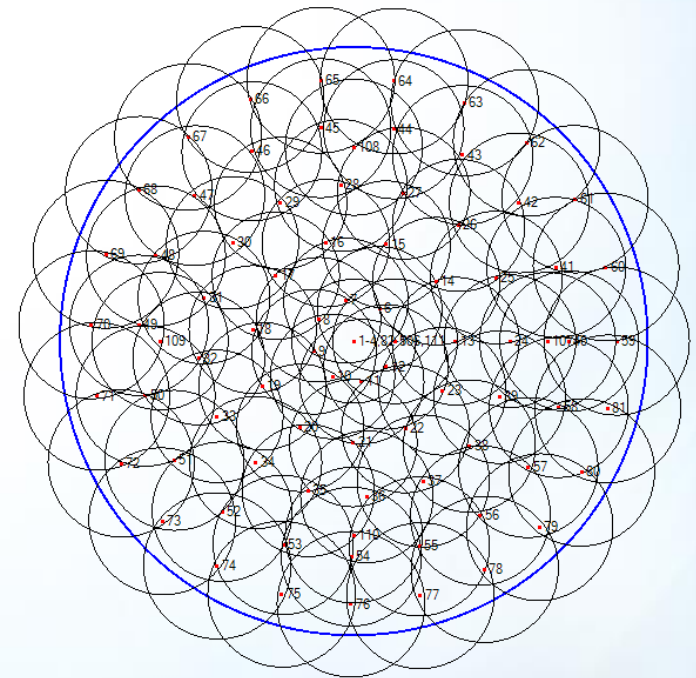
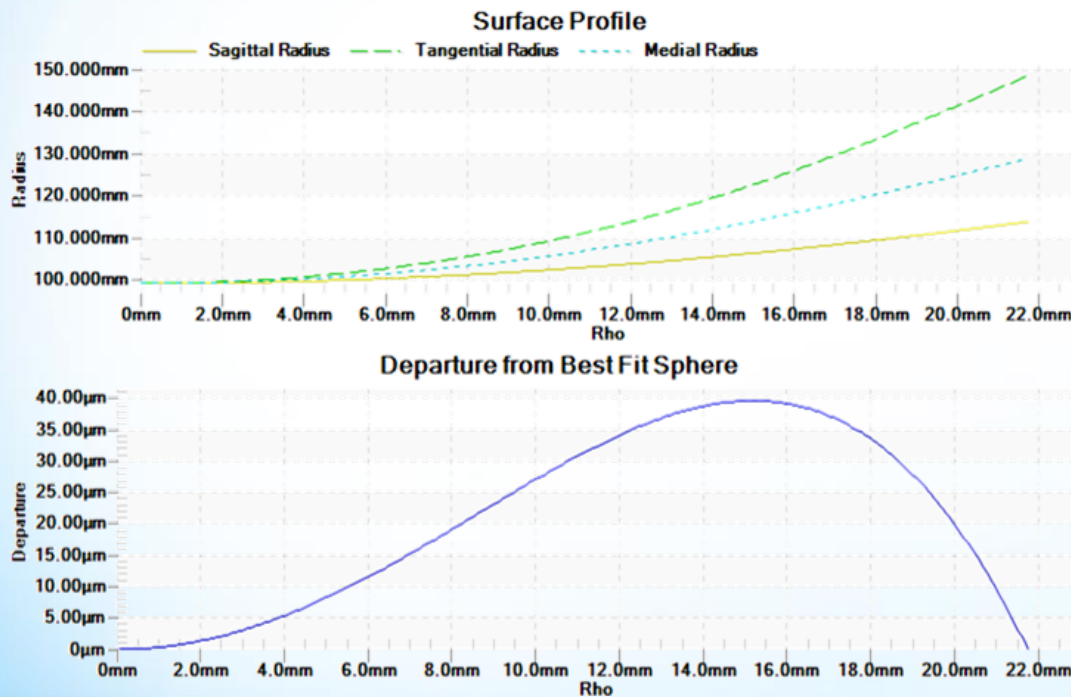
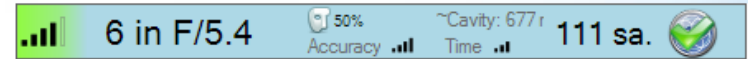
## Case Study – High Precision Asphere Measurements

**Presented By:**

QED Technologies Applications and Engineering

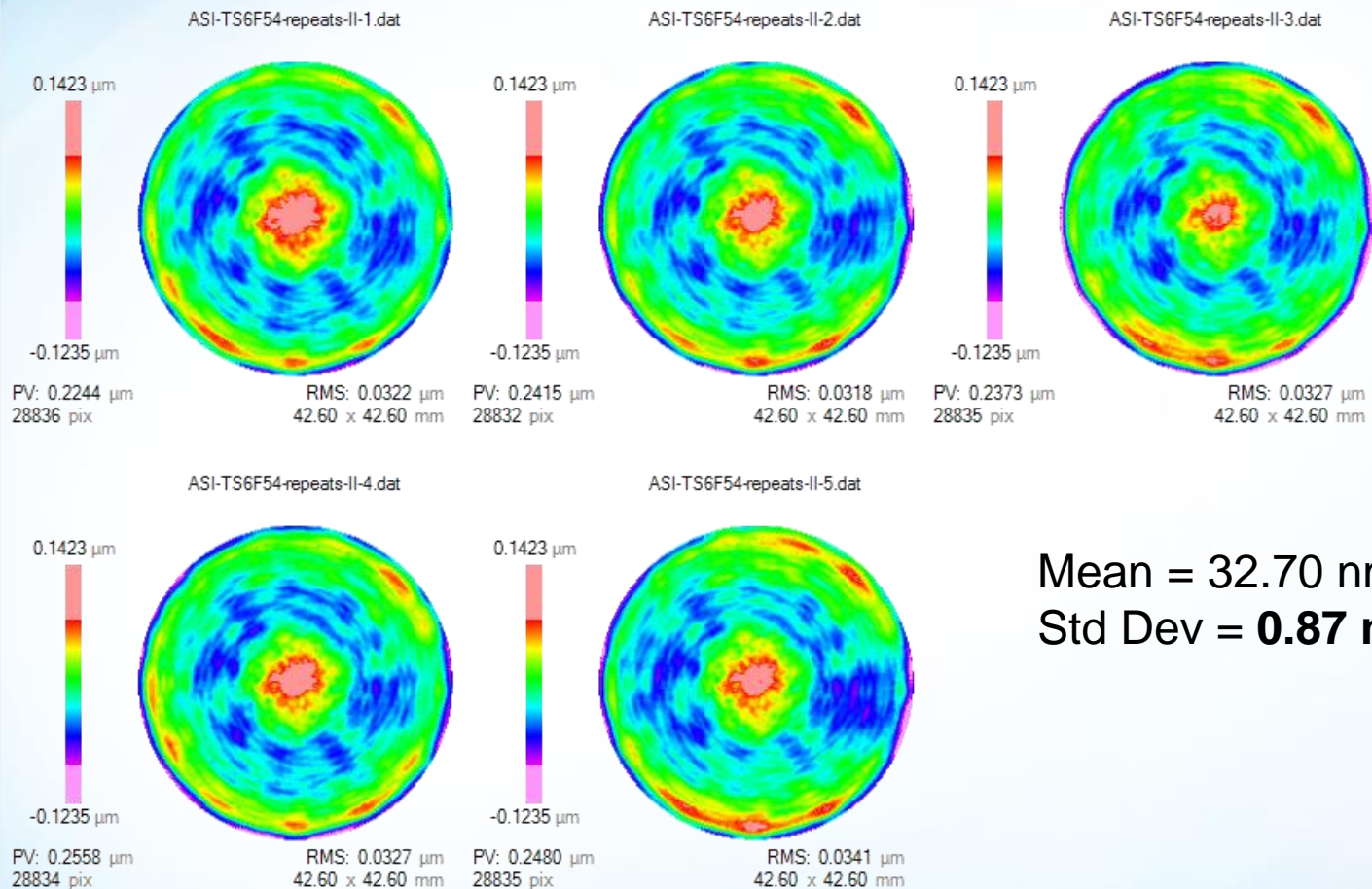
# High-precision asphere measurement

- ◆ 44mm diameter asphere
- ◆ 100mm convex base radius



# High-precision asphere measurement

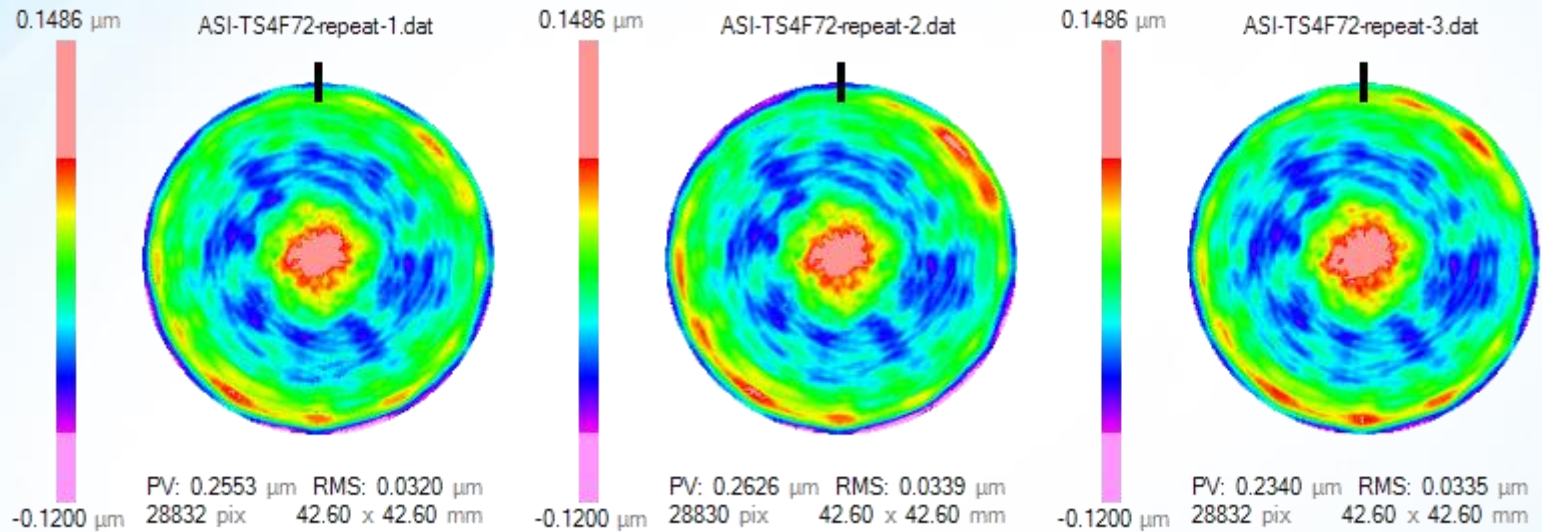
## *Repeatability*



Mean = 32.70 nm rms  
Std Dev = 0.87 nm rms

# High-precision asphere measurement

## *TS cross-test results*



Mean = **33.13 nm rms**

Difference from repeats = **0.43 nm rms**

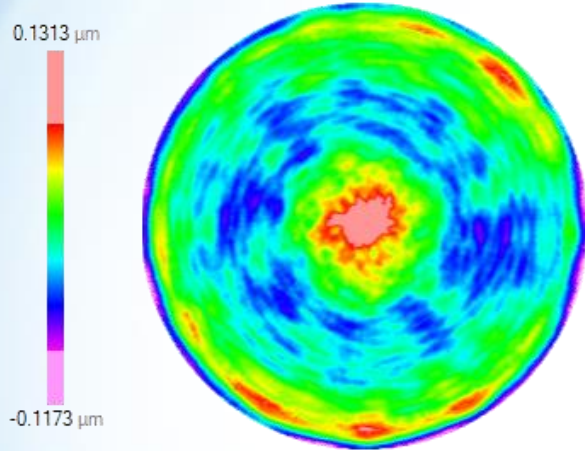


# High-precision asphere measurement

## *Instrument cross-test*

### ASI

Average ASI Result



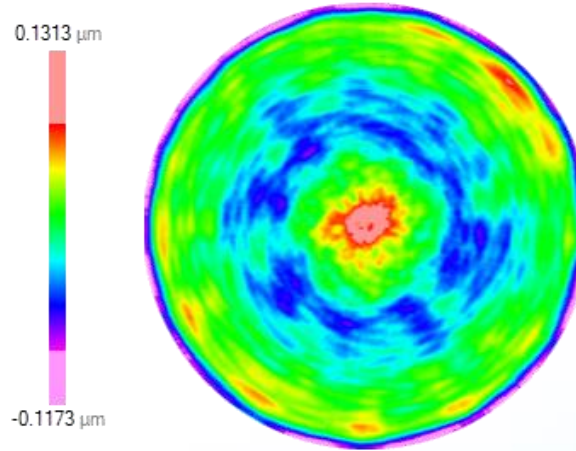
PV: 0.2449  $\mu\text{m}$   
717912 pix

RMS: 0.0315  $\mu\text{m}$   
42.42 x 42.42 mm

32 nm rms

### VFA

Average VFA Result



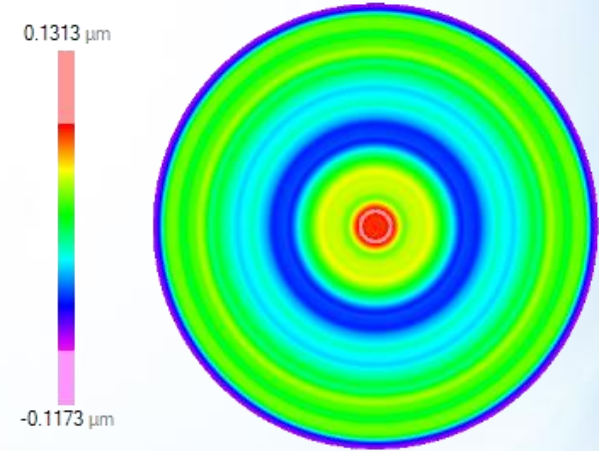
PV: 0.2365  $\mu\text{m}$   
666581 pix

RMS: 0.0327  $\mu\text{m}$   
42.53 x 42.53 mm

33 nm rms

### TalySurf

Average TalySurf Result



PV: 0.1503  $\mu\text{m}$   
125252 pix

RMS: 0.0293  $\mu\text{m}$   
42.57 x 42.57 mm

29 nm rms  
(rotationally  
symmetric error only)

*Excellent agreement across multiple instruments*