

Nanotech 250UPL^{v2} Objective

To characterize absolute machine performance on monocrystalline germanium in terms of both surface finish and form accuracy

Process

2-Axis Single Point Diamond Turning



Application Summary

Part Configuration

Material: Ge
 Diameter: 60 mm
 Radius: 250 mm
 Surface Type: CX Sphere

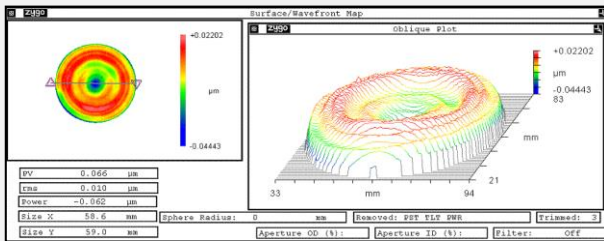
Tool Configuration

Radius: 0.635mm
 Top Rake: -25 Degree

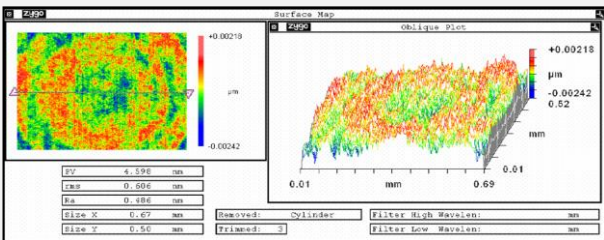
Machining Parameters

Spindle RPM: 2500
 Finish Feedrate: 2 mm/min
 Finish Depth of Cut: 2 μ m
 Coolant: Odorless Mineral Spirits

Metrology Results



Form Accuracy: PV = 0.066 μ m



Surface Finish: Ra = 0.486 nm

