

**GPGPU's can process images much faster than conventional PC's**



+

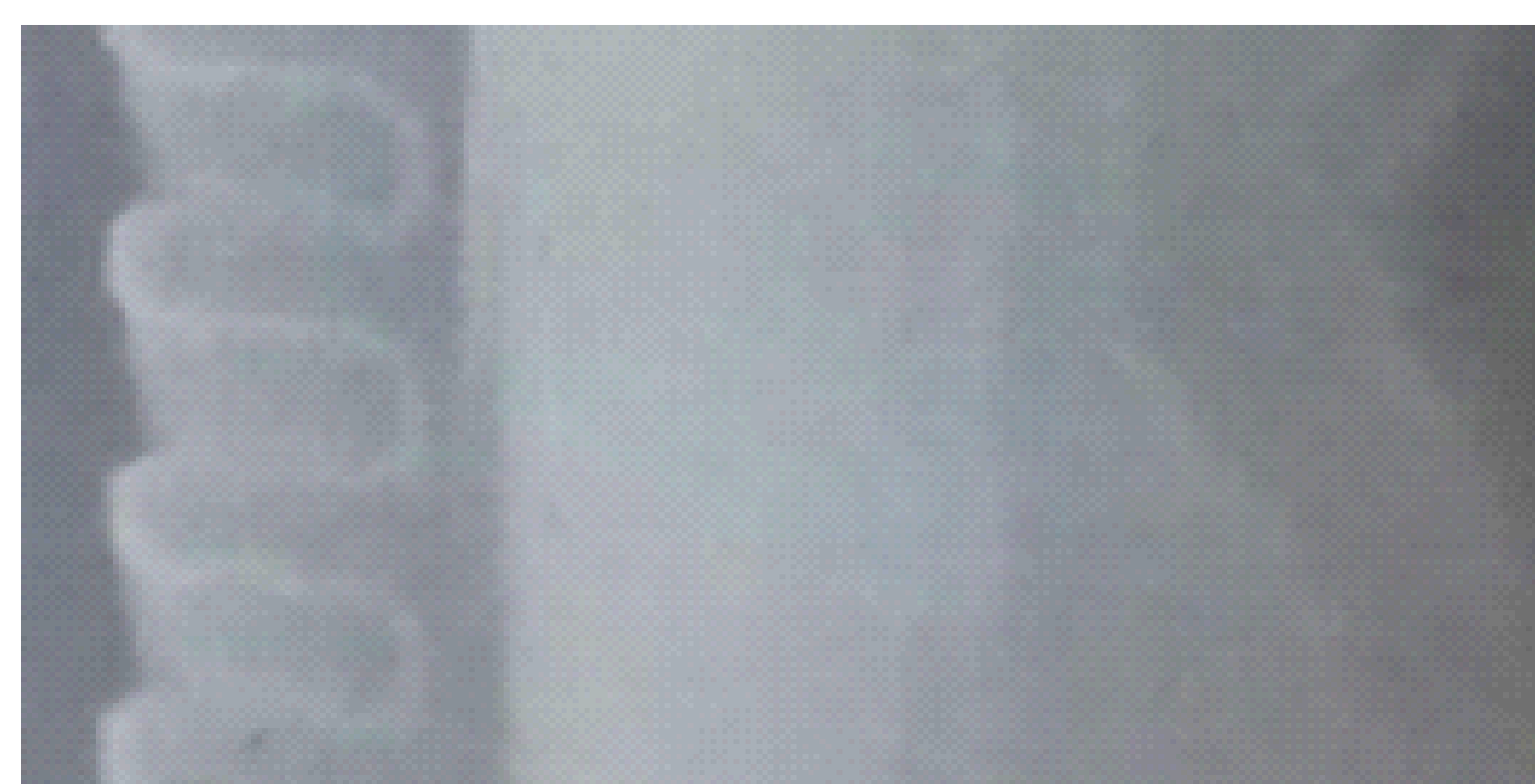


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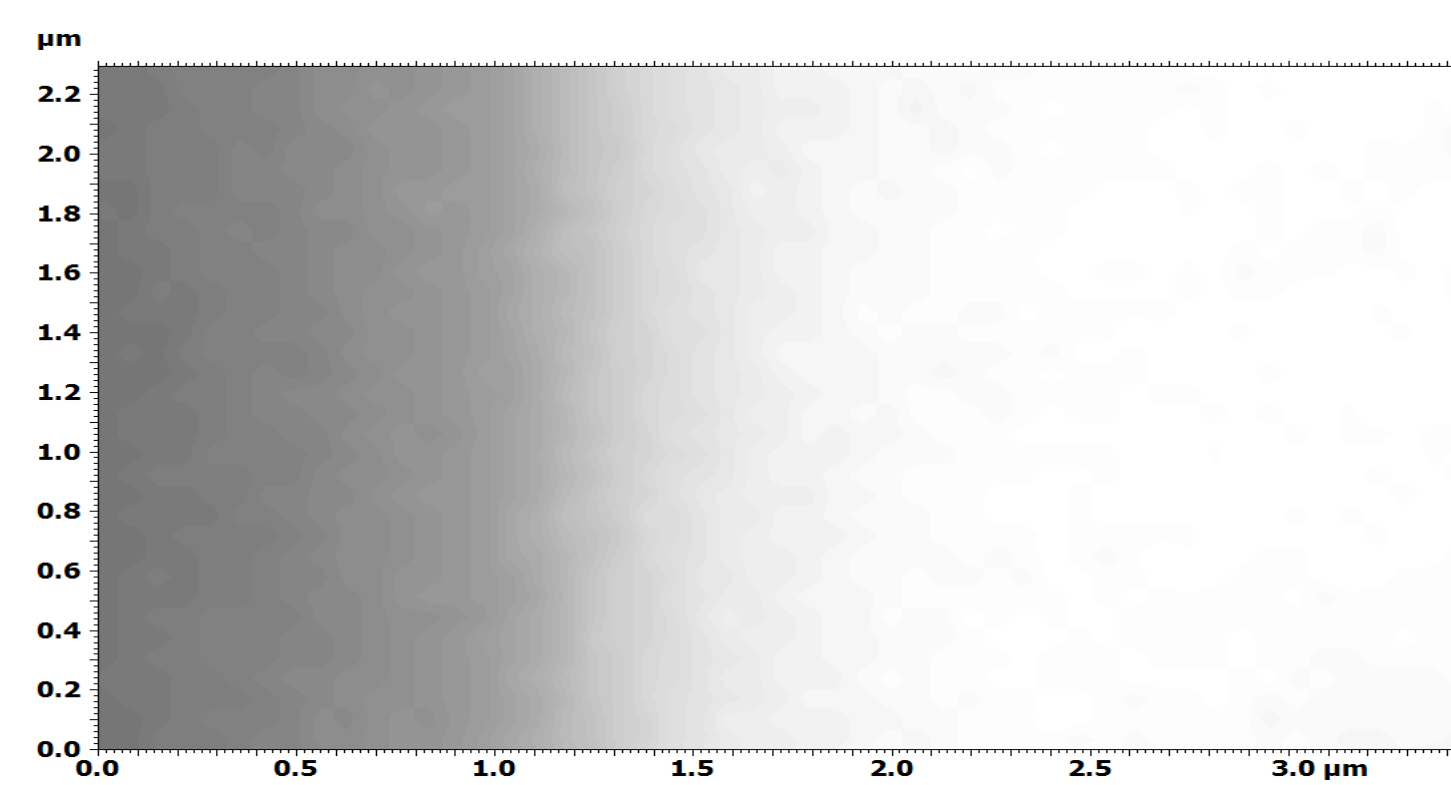
**higher speed + improved results**

advanced algorithms can be used for the image processing based on the higher performance of graphical boards

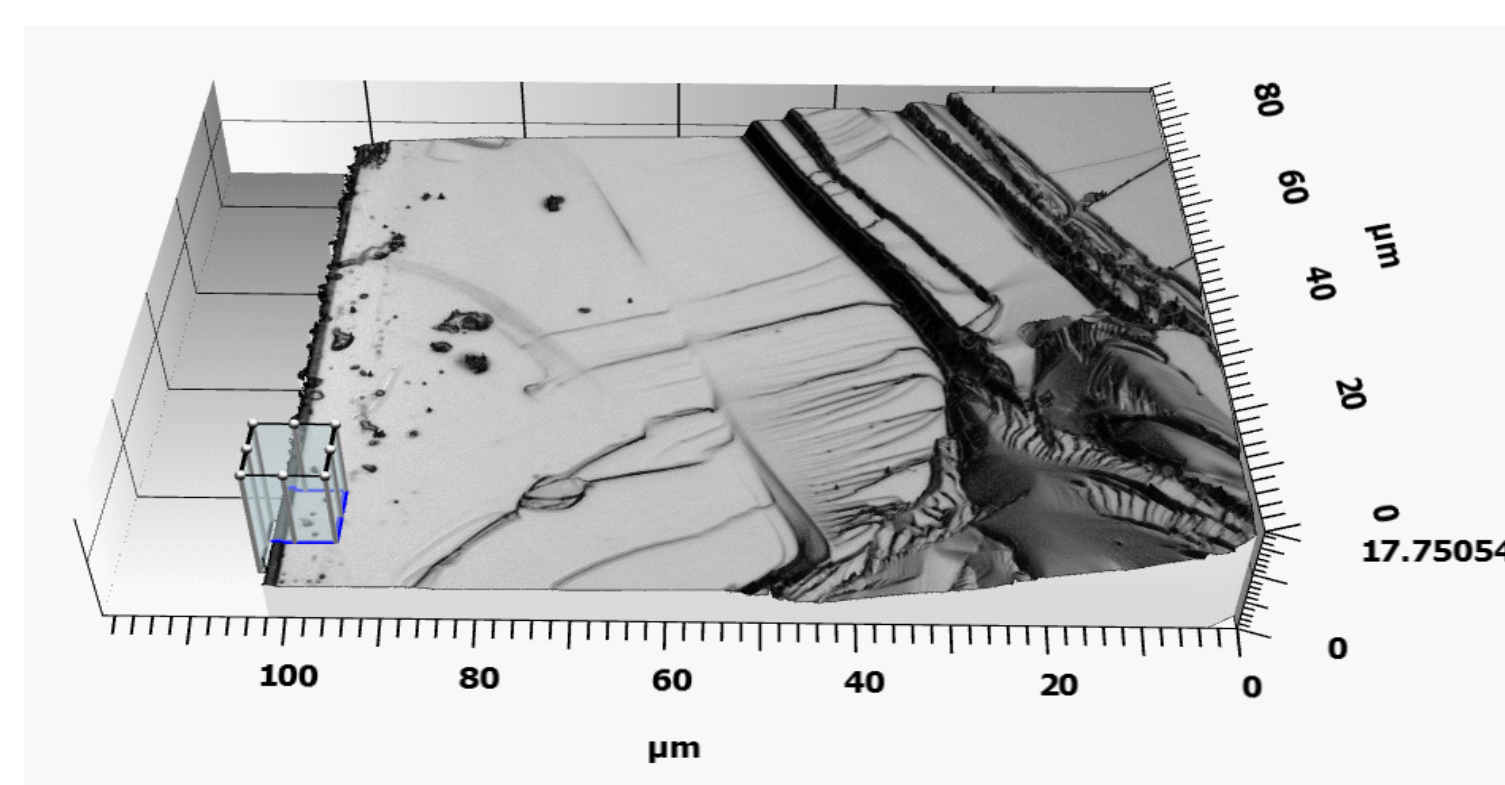
## smartWLI resolves details below the rayleigh limit



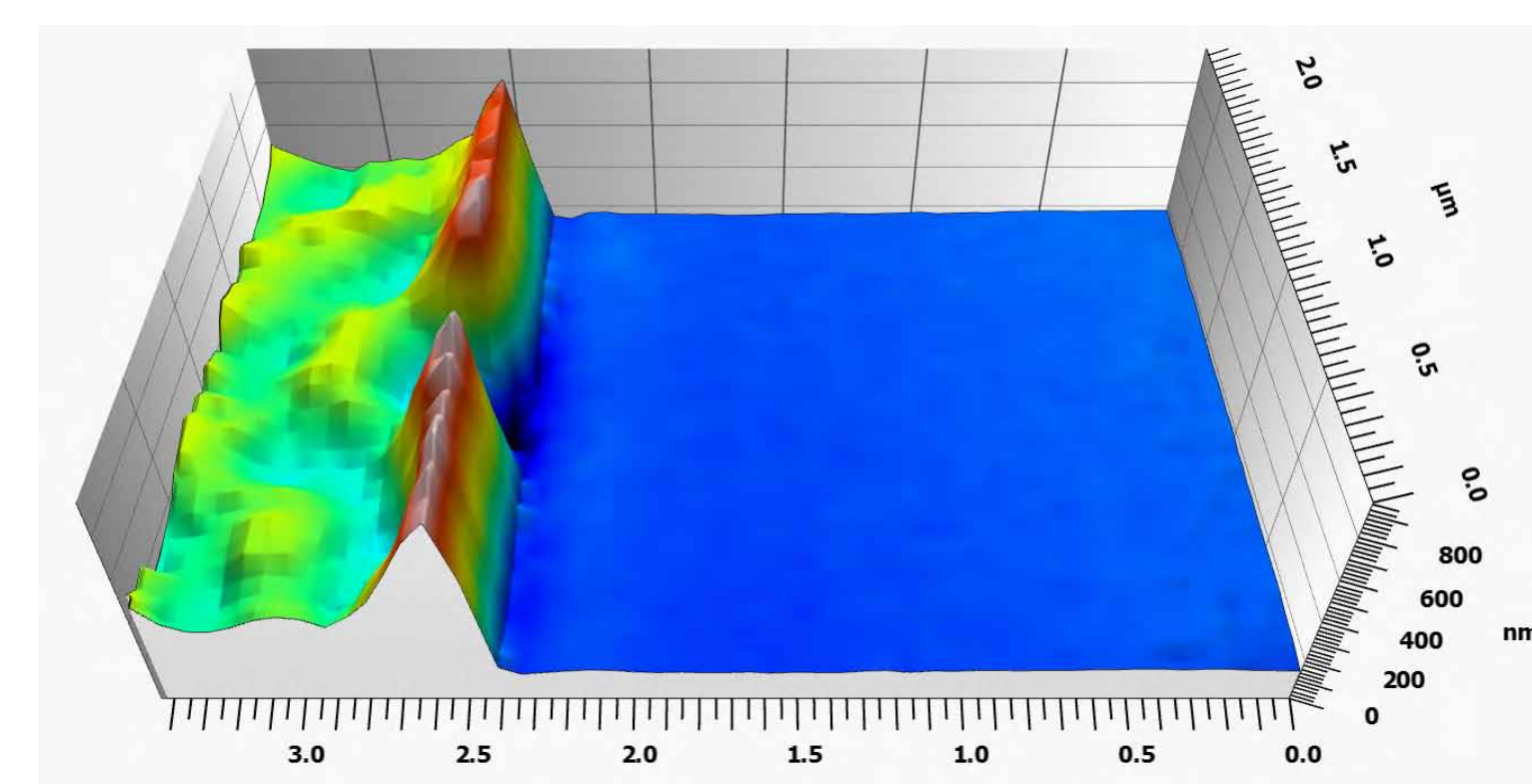
SEM (scanning electron microscopy)



100x objective / similar area as SEM



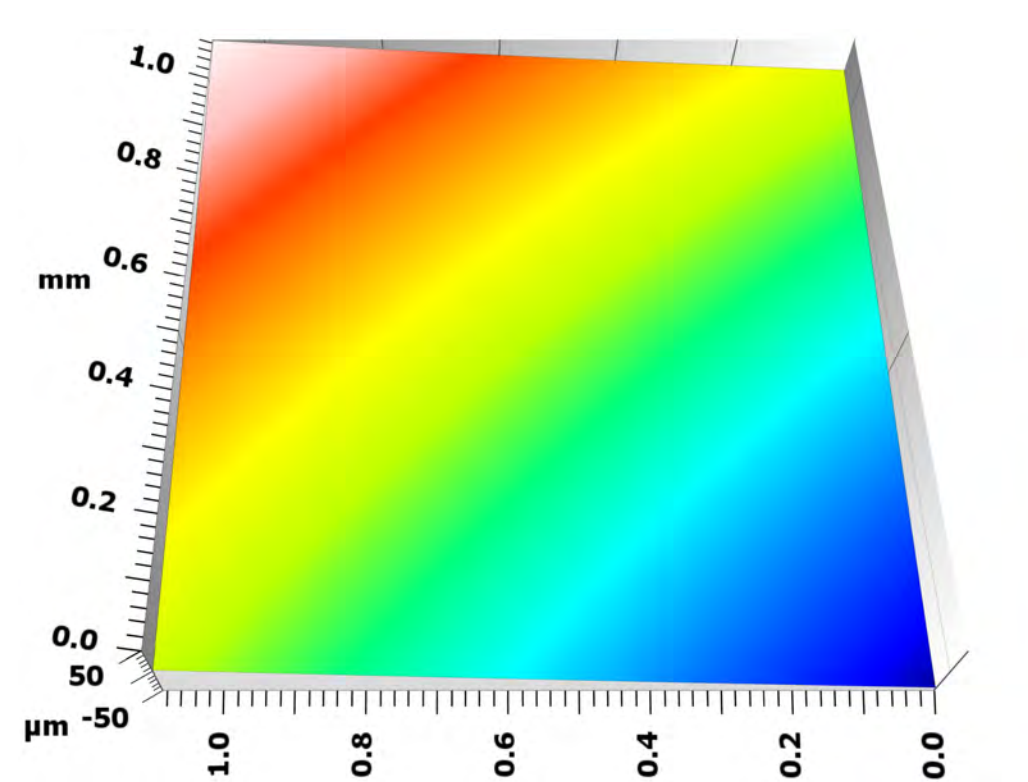
3d image smartWLI 100x full scan



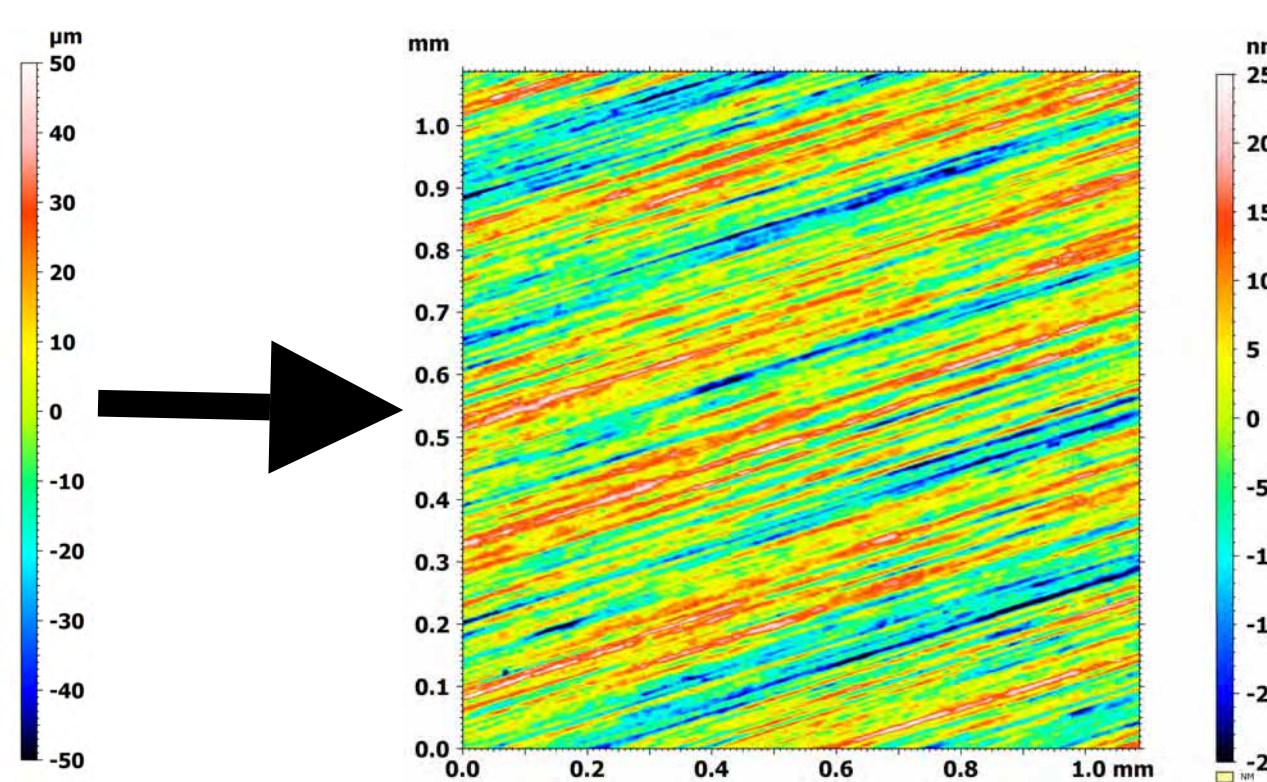
WLI scan / similar area as SEM

smartWLI needs less contrast and provides more object information as microscopic images

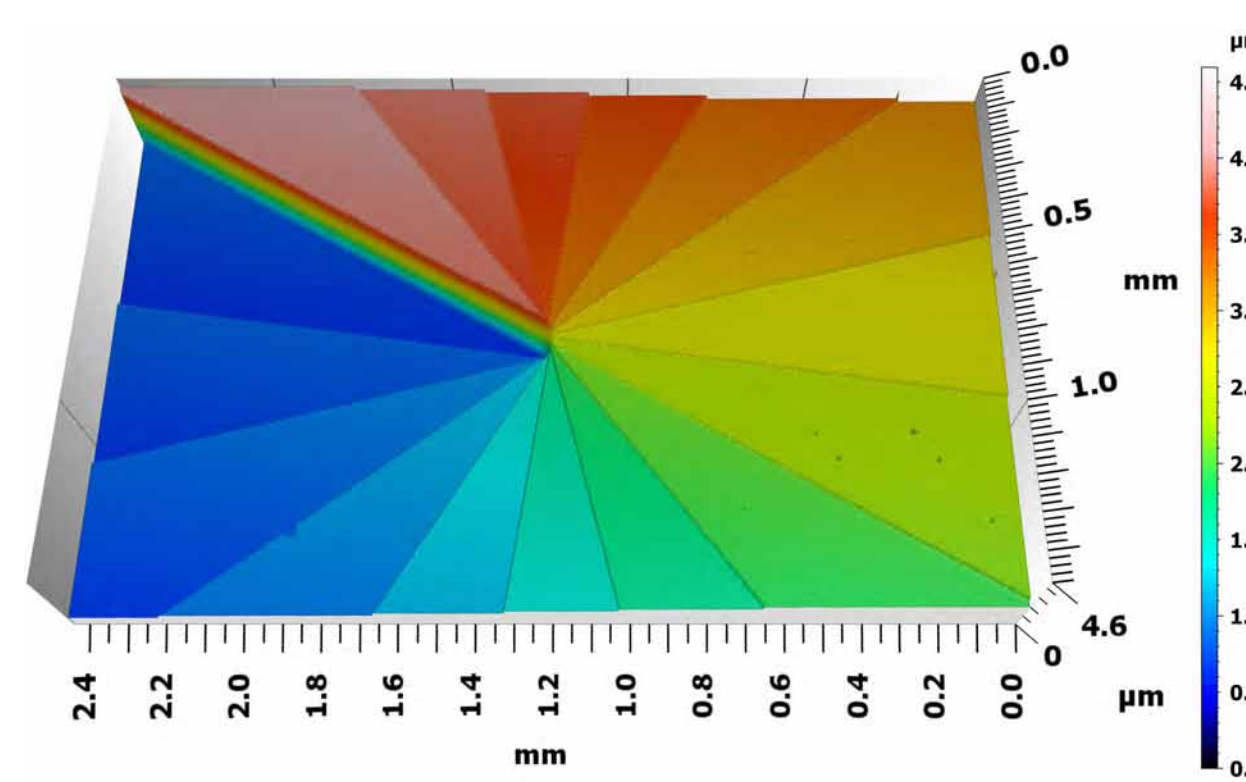
## EPSI (extended phase shift interferometry) for sub nanometer resolution



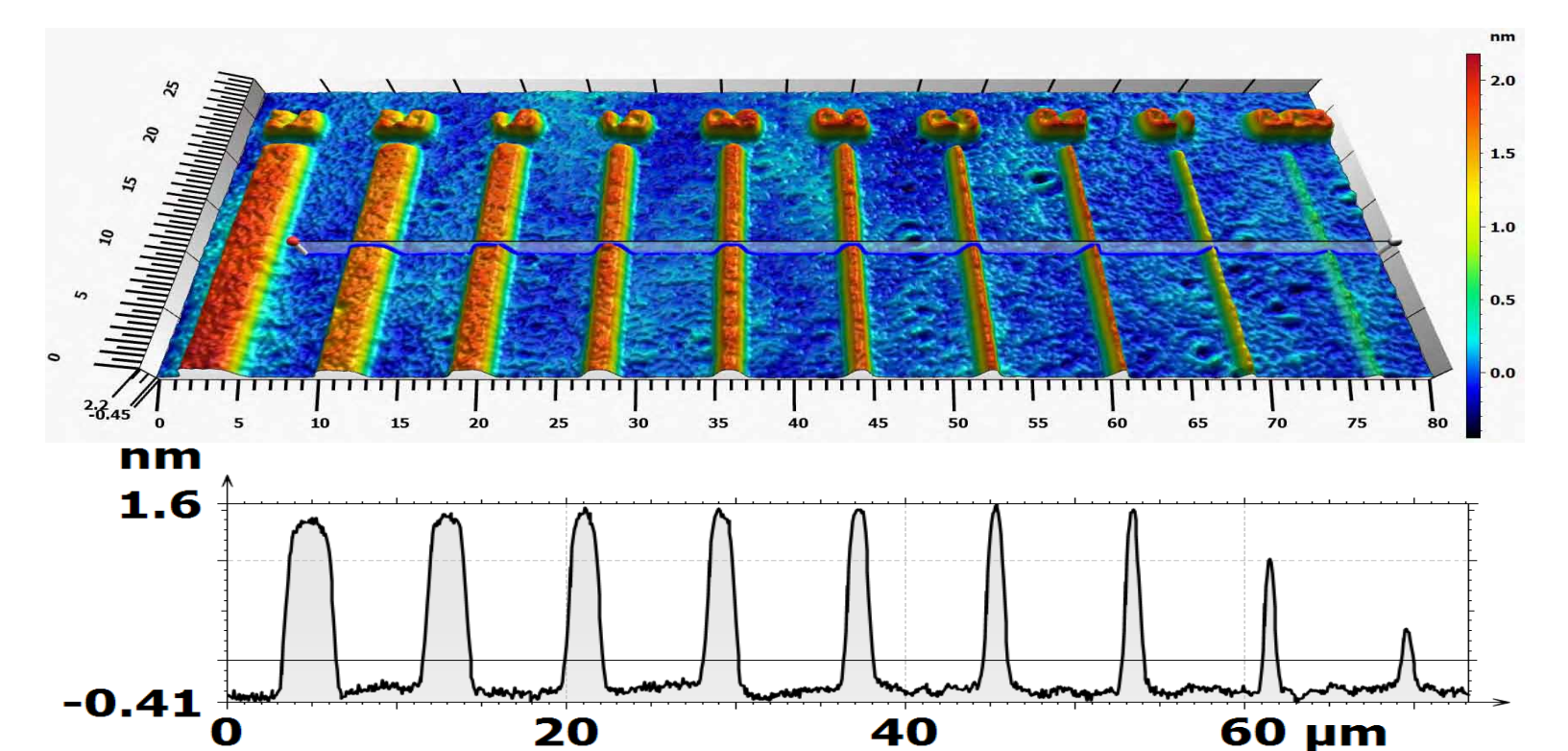
inclined surface of a lens



surface after form filtering



test structure with small steps



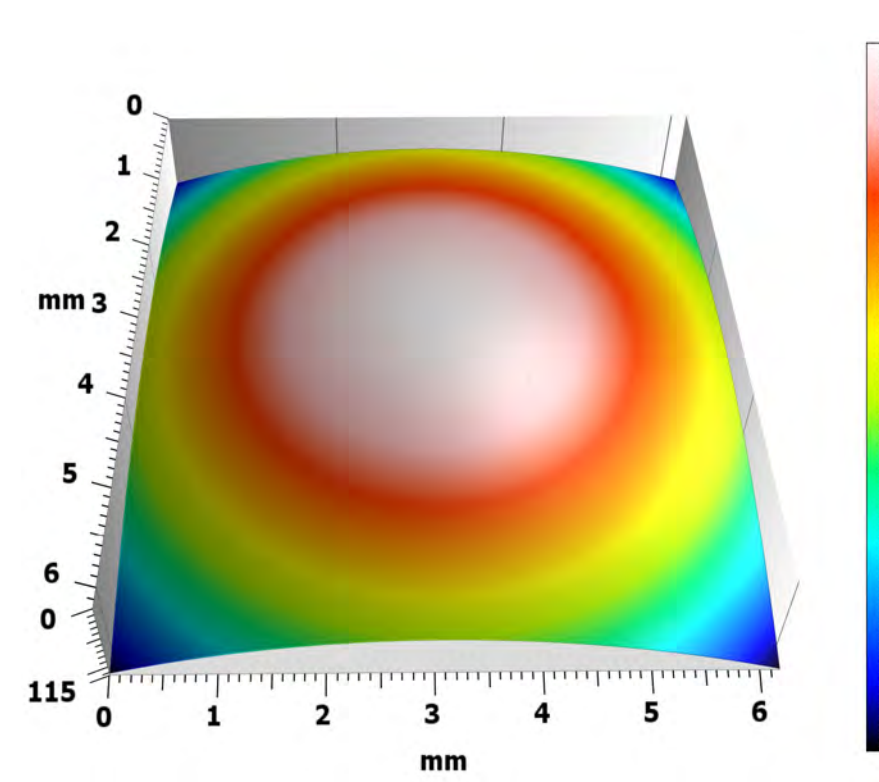
lines down to a thickness of 0.1  $\mu\text{m}$

EPSI provides sub nanometer resolution on an extended scanning range

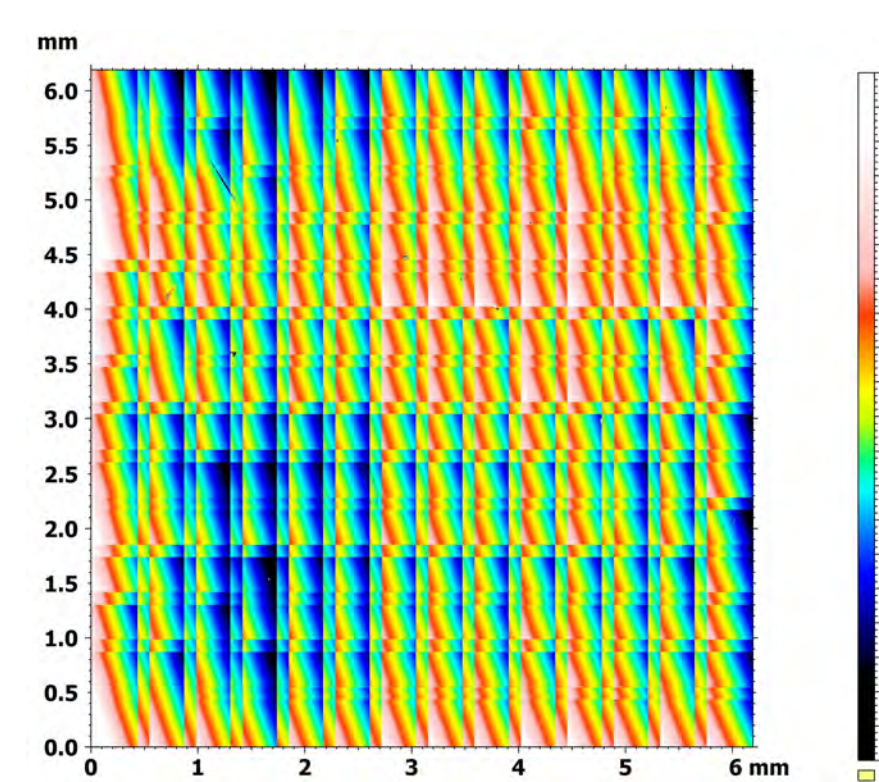
## smartSTITCH eliminates the limitation of mechanical positioning systems



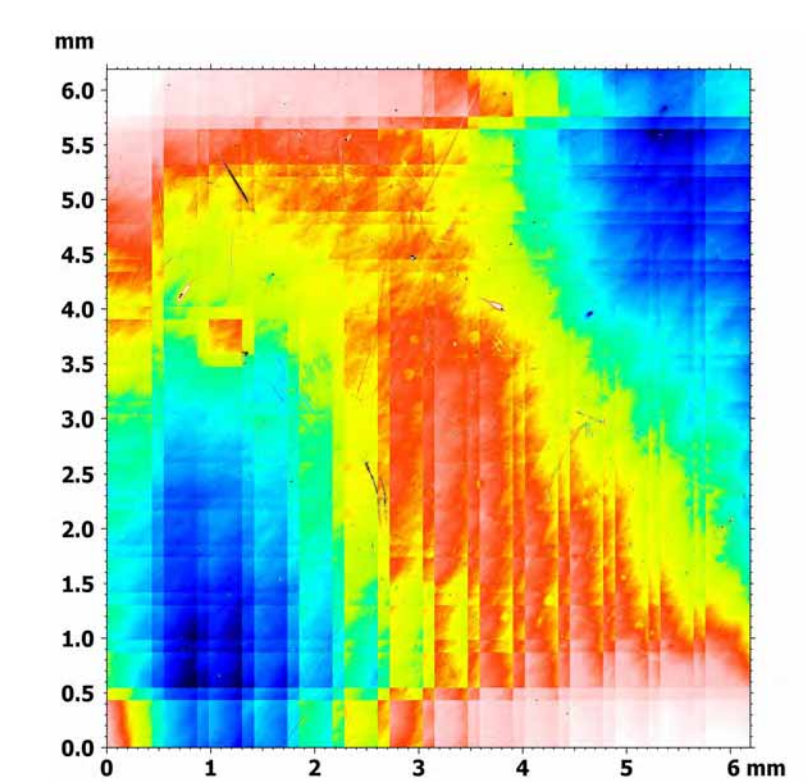
historical magnifying glass



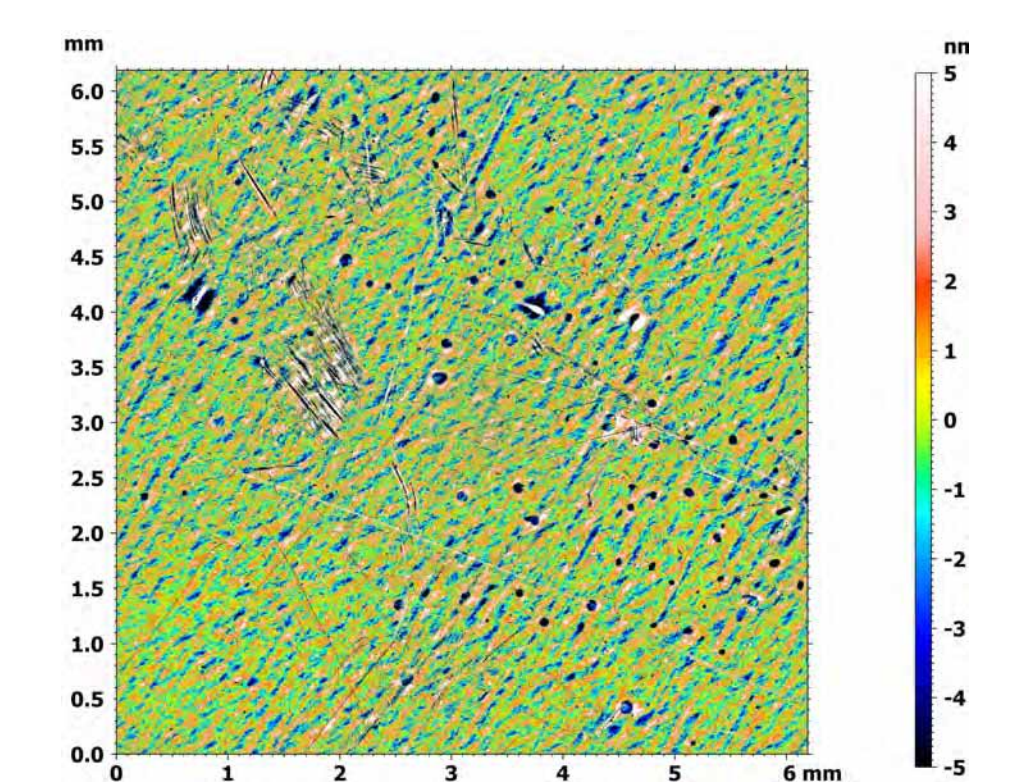
3D scan



full z error of the xy-stage



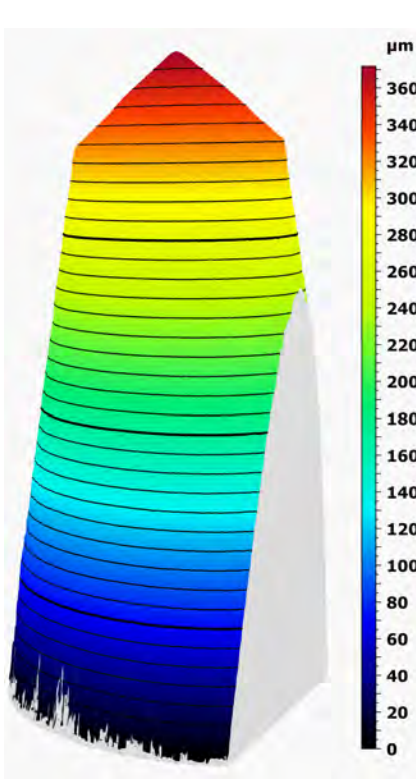
z correction  
(MountainsMap)



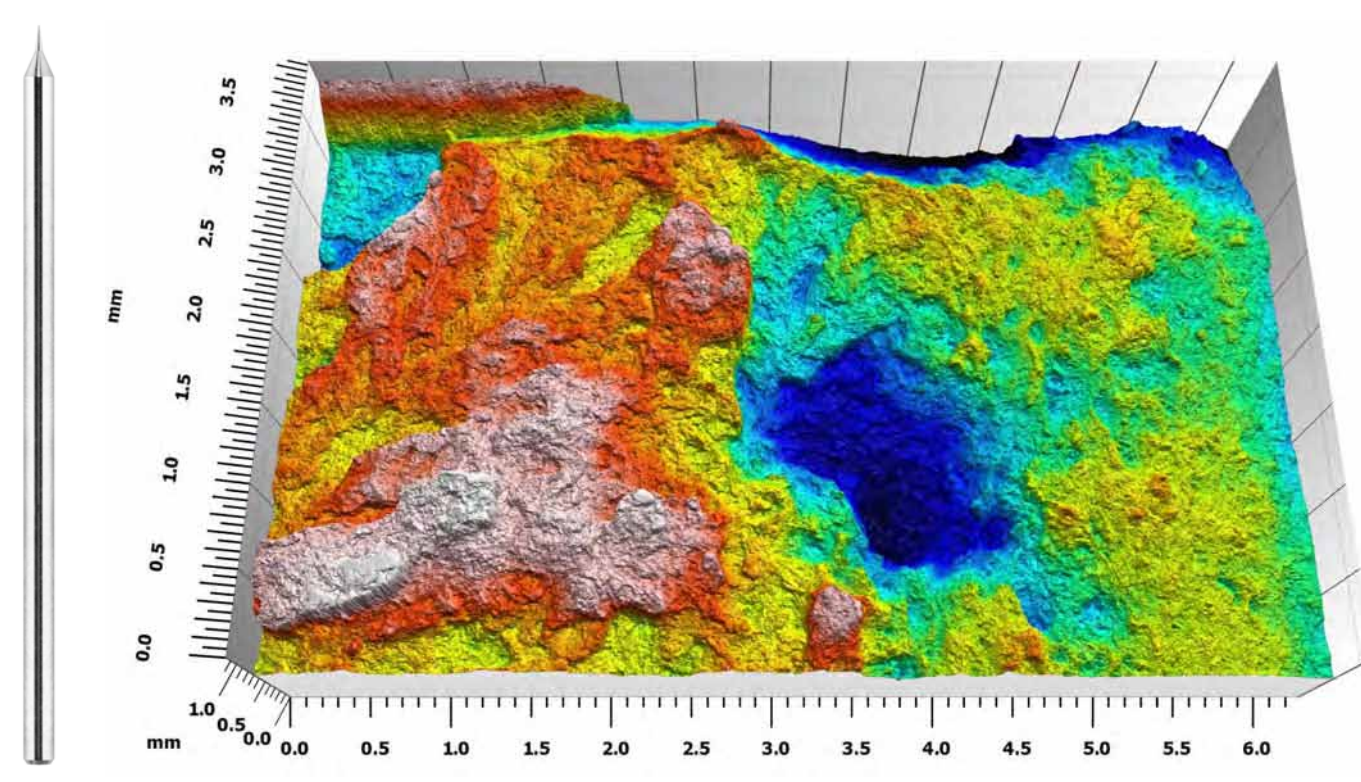
z and angle correction  
smartSTITCH (GBS)

algorithms for z and angle correction allow the evaluation of nano form deviations and nano structures in larger areas

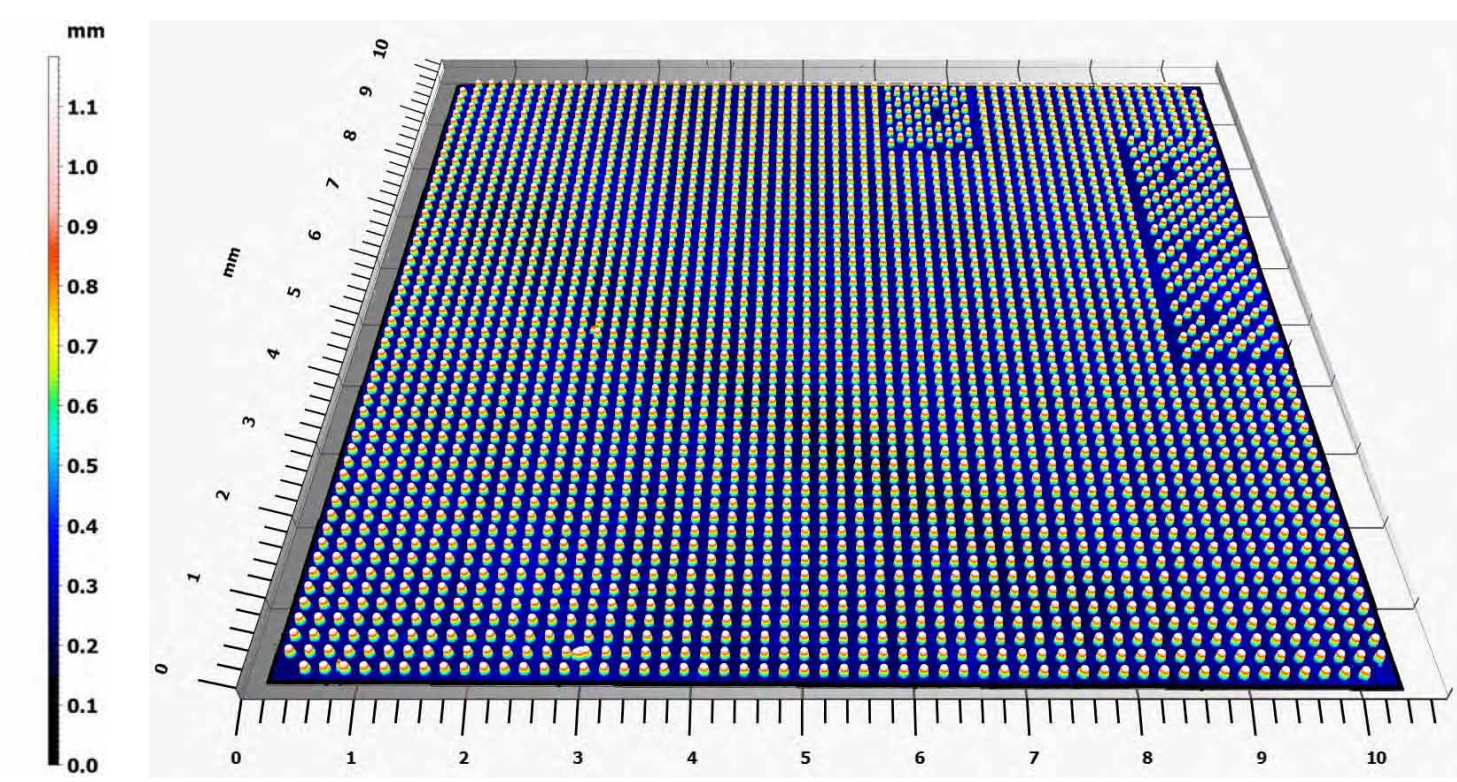
## measurements of strongly inclined large objects



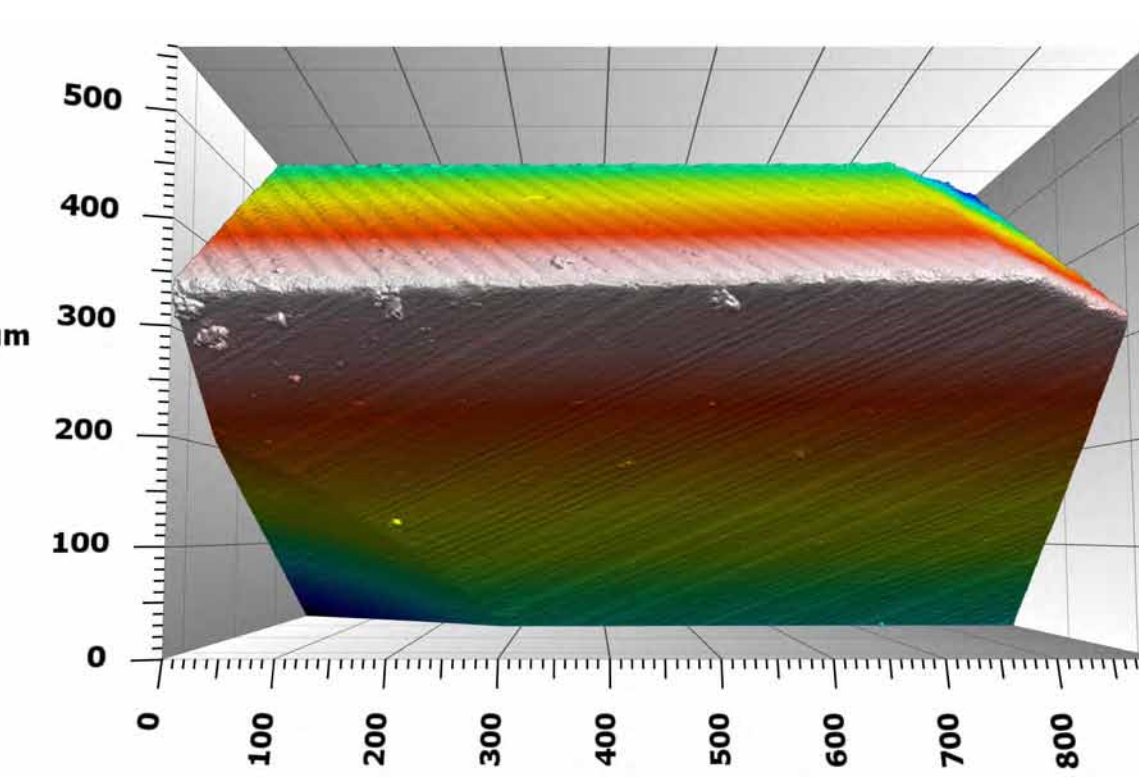
needle tip



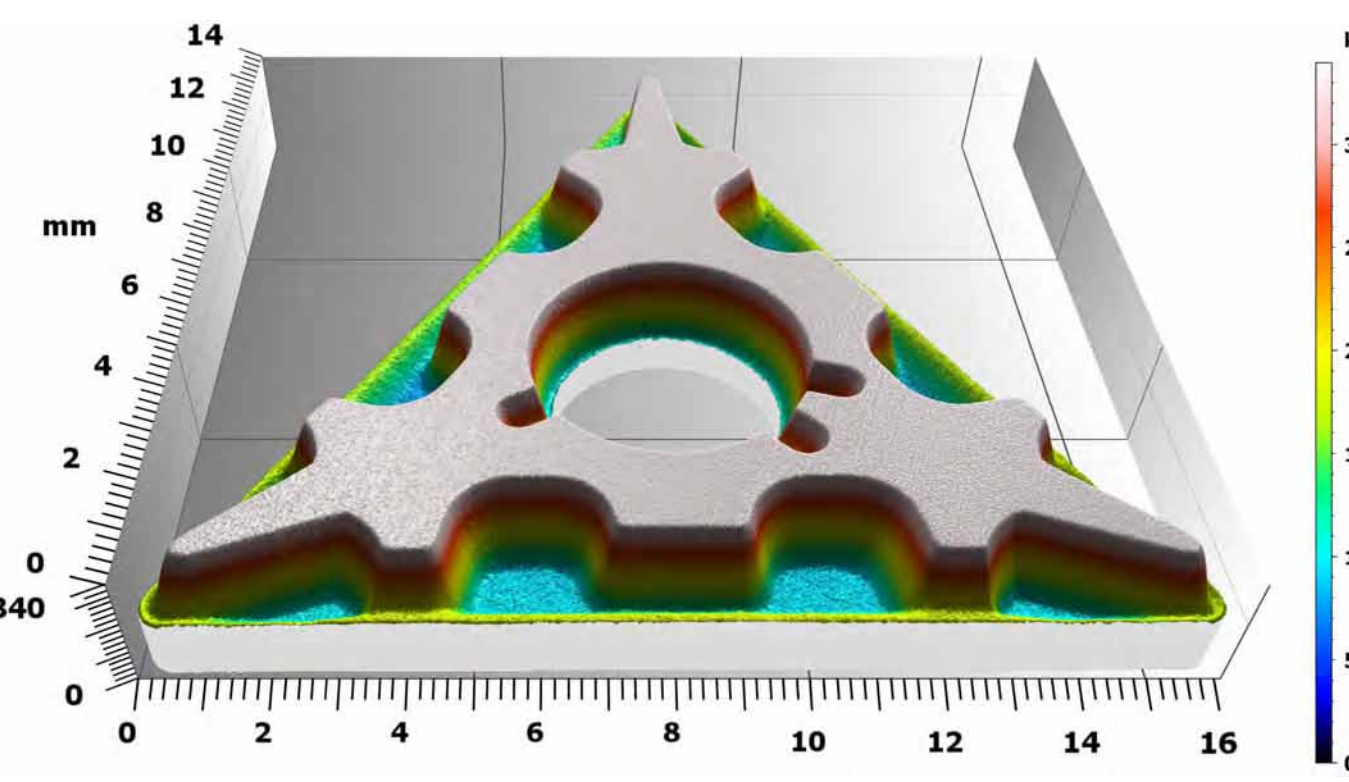
crack area



solder points



cutting edge, end mill



insert