

MicroDynamics

The logo for MicroDynamics is a white circle with a red border. Inside the circle, the word "MicroDynamics" is written in a bold, blue, sans-serif font. A red waveform graphic, resembling a sound wave or a signal, is overlaid on the text, passing through the letters "roDyna".

Background

Founded in 1999

Primary focus on non-contact metrology

Consulting provided in high power laser control, beam delivery systems, robotics, optical design

Provides technical support for sister companies including robotic system design and fabrication, equipment maintenance

Proposed System

Vertical robotic boom type system with horizontal platter chuck.

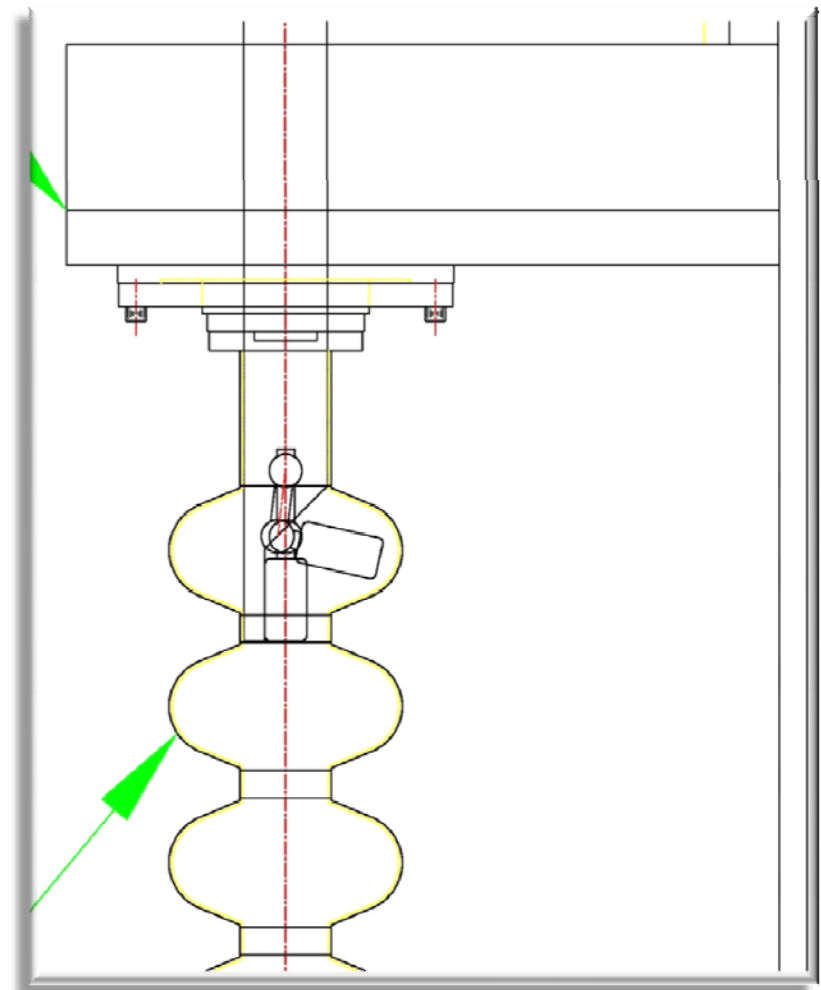
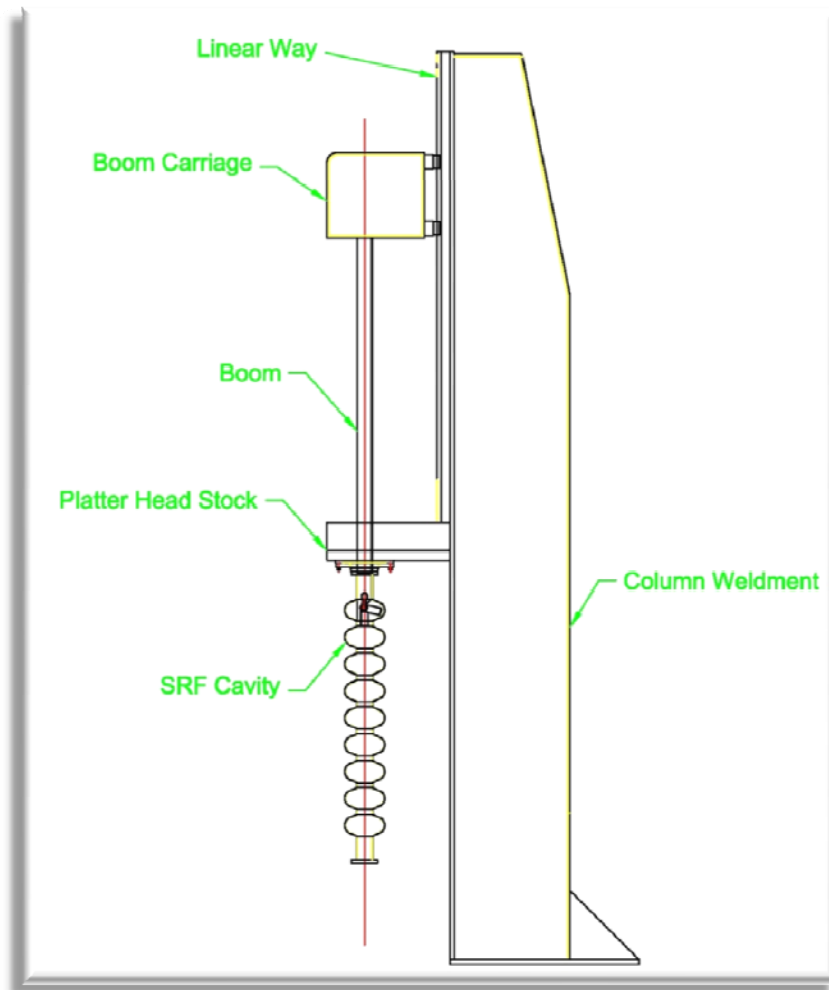
Dual resolution surface profiling heads to scan the interior of the cavities are incorporated into the boom.

A laser focusing cell and viewing camera are also mounted in boom to facilitate repair.

8 axis motion control sub systems including nanometer encoding provide precise motion control.

Interpolated motion control positions probes via 2 axis knuckles and optimizes inspection orientation.

Configuration



Capability

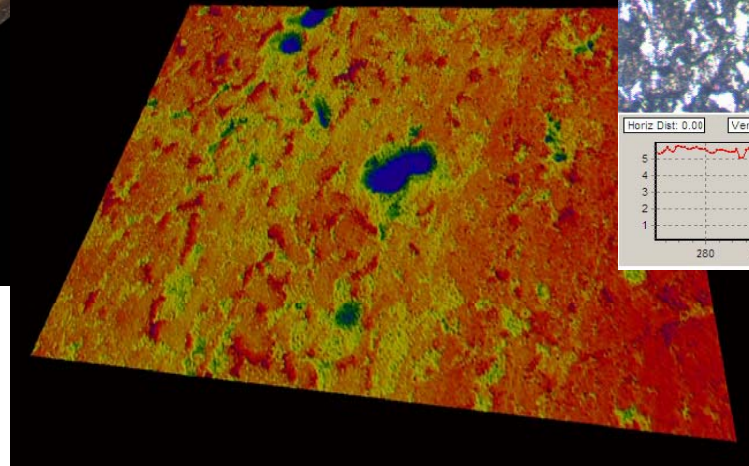
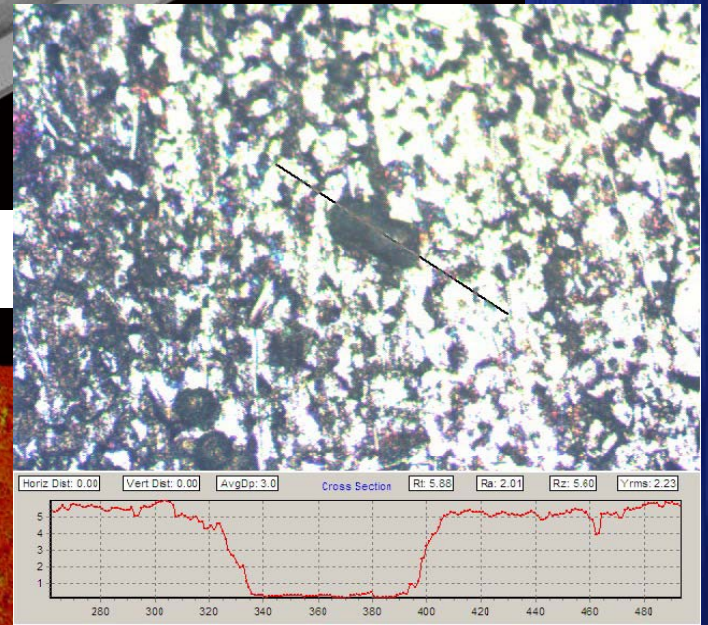
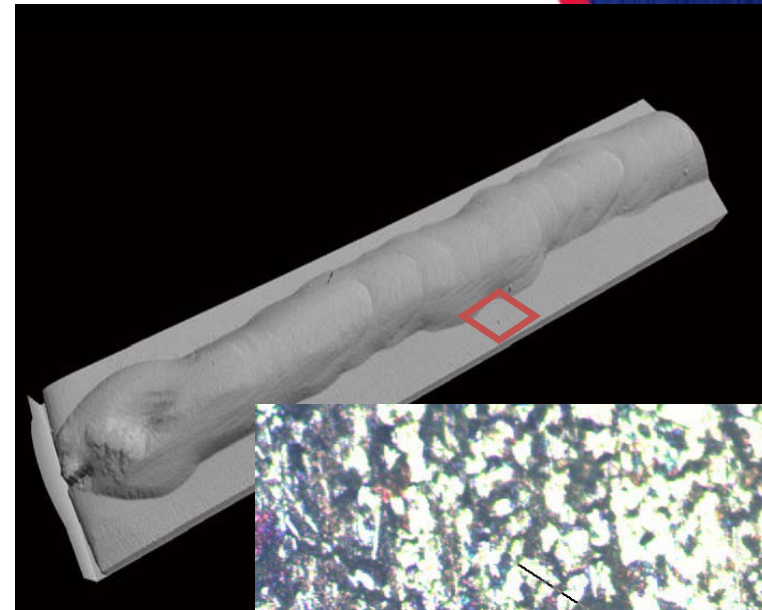
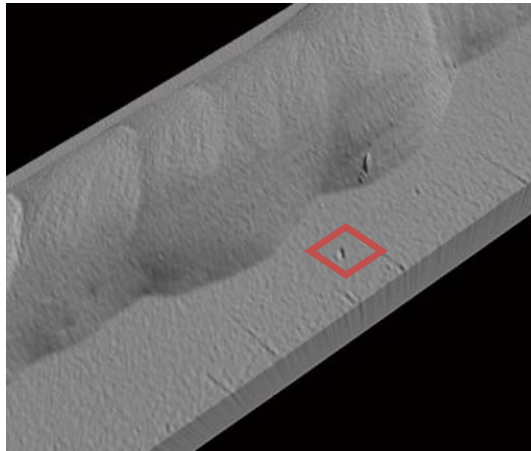
Correlation of profilometer point cloud to SRF cavity 3D CAD layout and camera images.

Automated point cloud analysis and flaw detection – true non-contact CMM including dimensional analysis

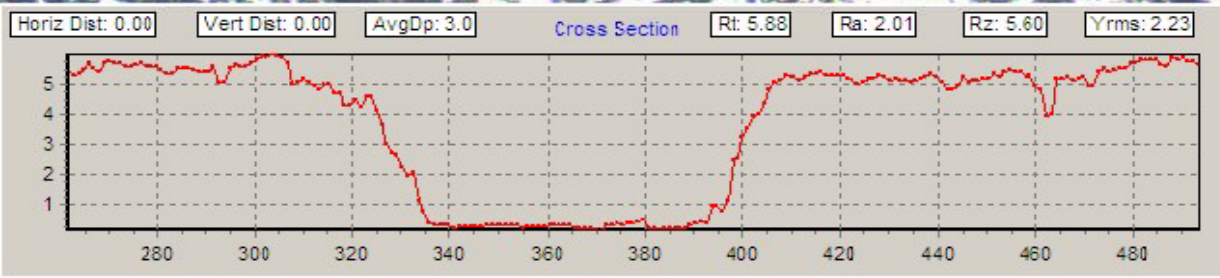
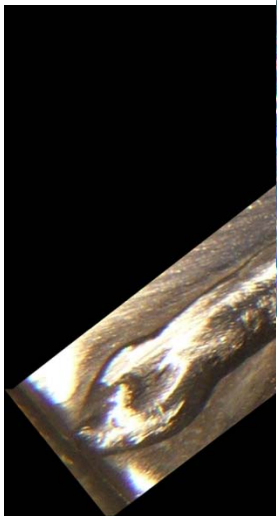
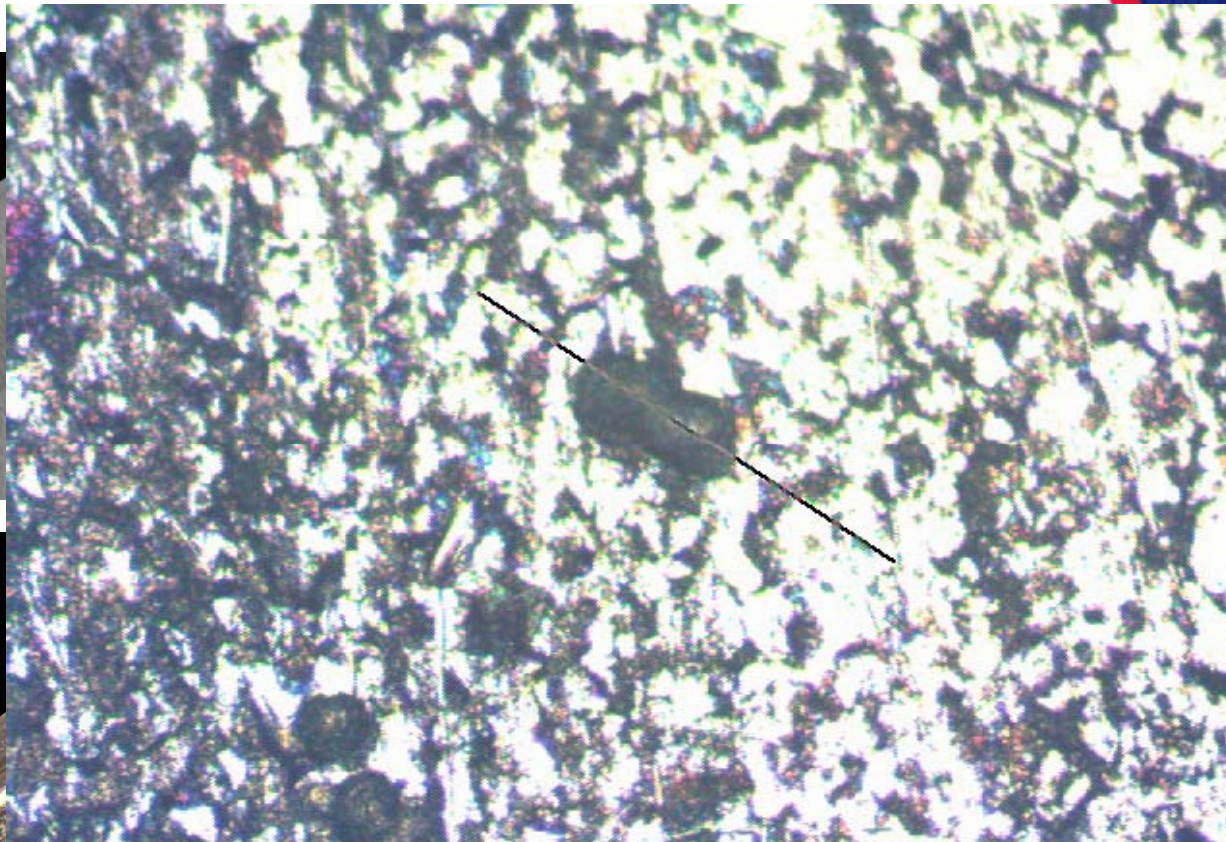
Coordinated deployment motion profile generated from 3D CAD file guides boom and probe entry into each cavity while insuring no contact with cavity walls .

Graphical user interface, allowing ease of use balanced with flexibility and precision control of the instrument package. Areas to scan and analyze specified on surface of 3D CAD file.

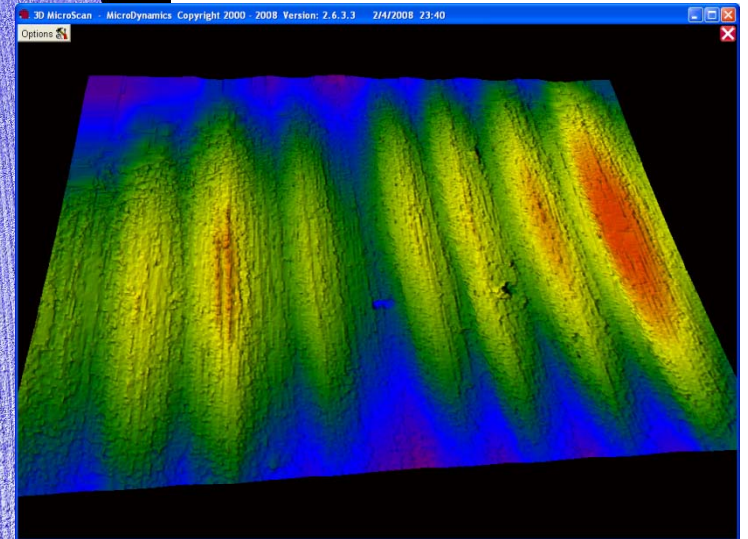
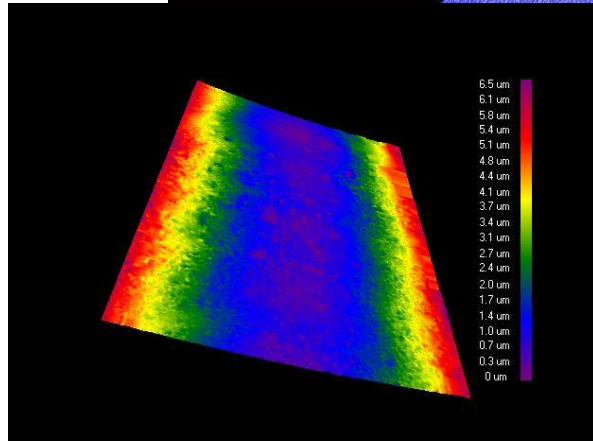
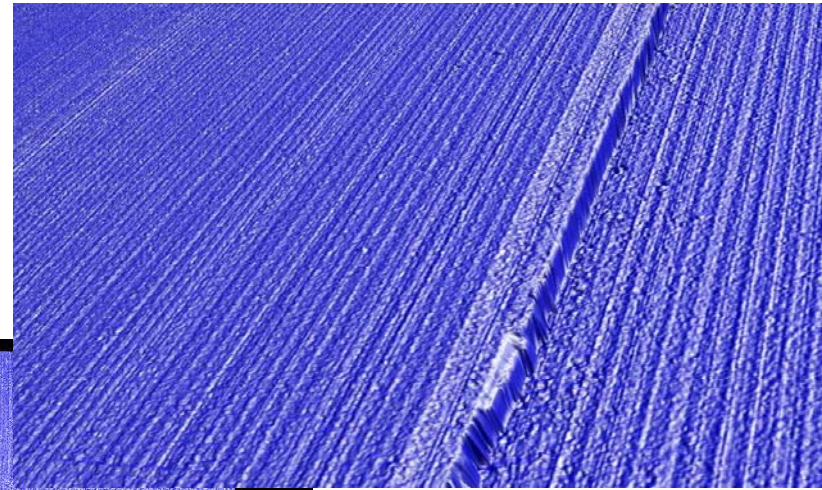
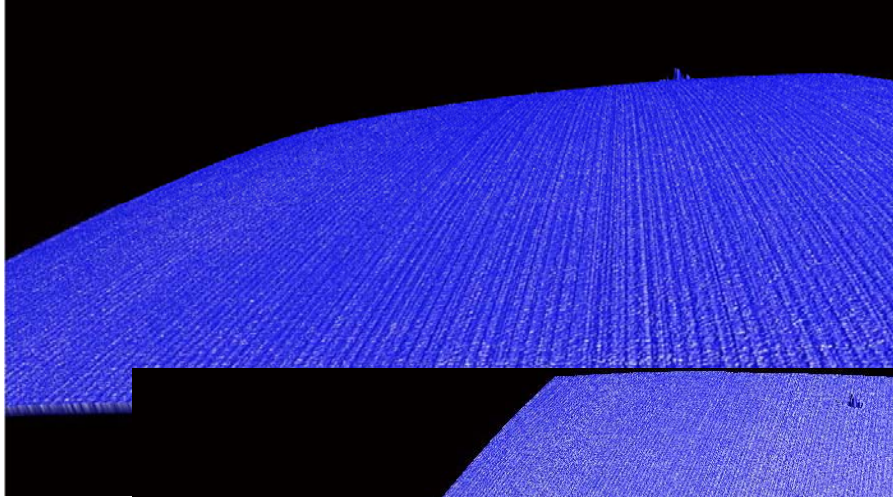
Data Correlation



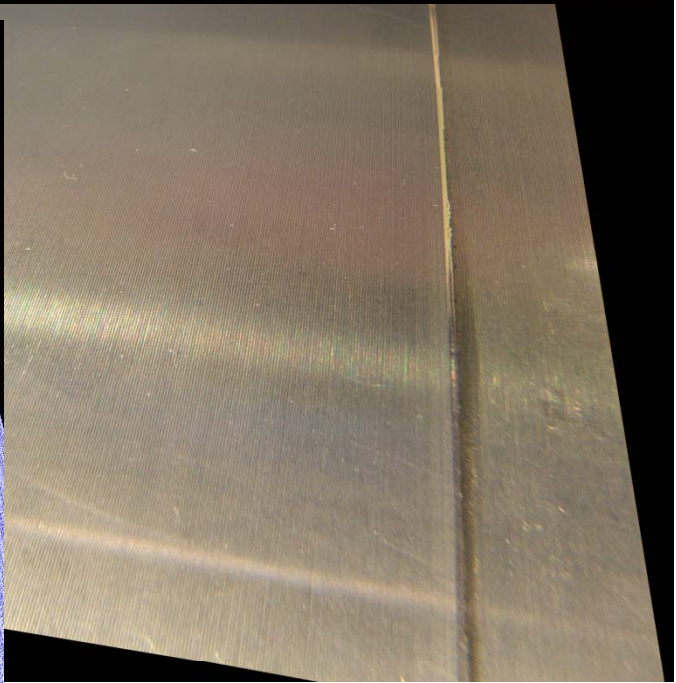
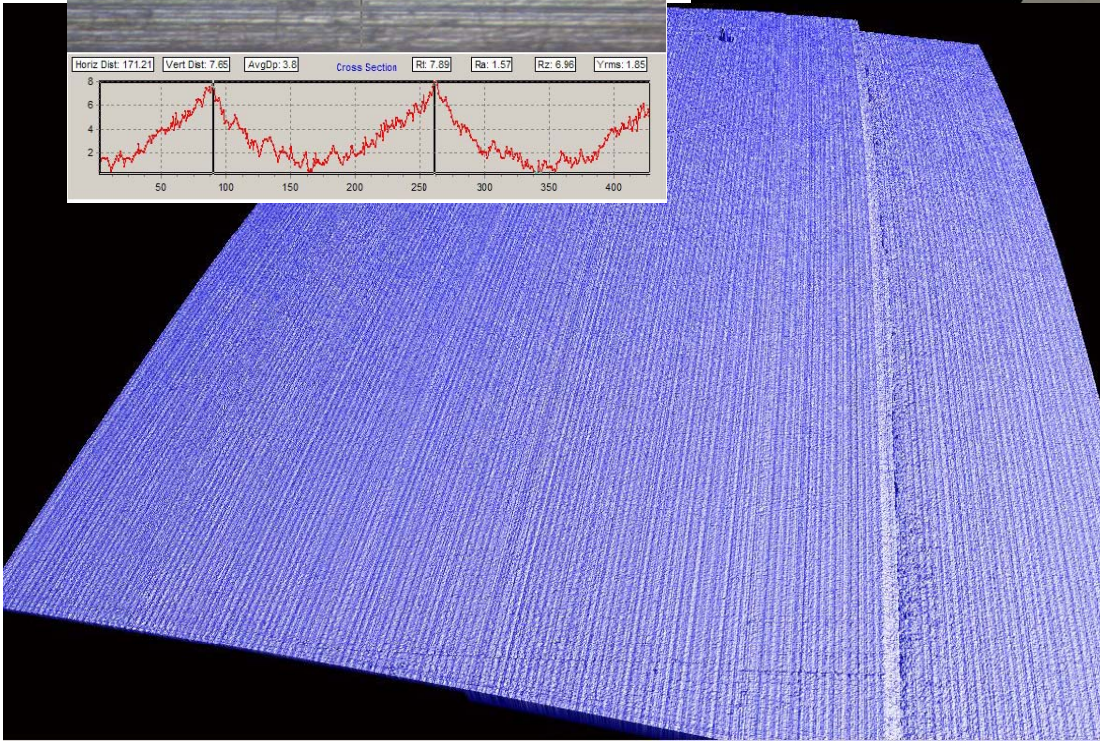
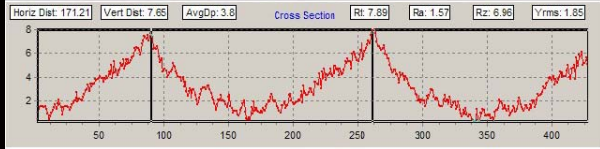
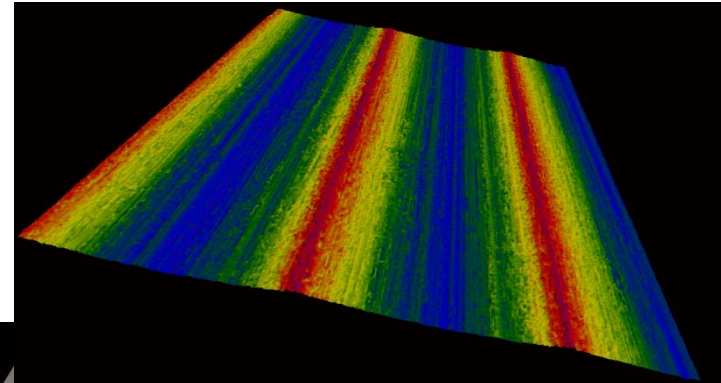
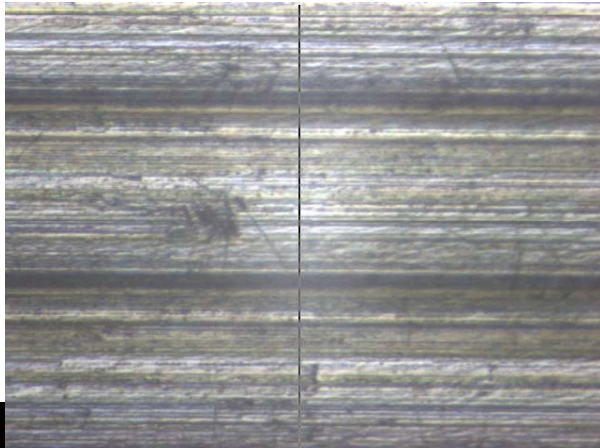
Data Correlation



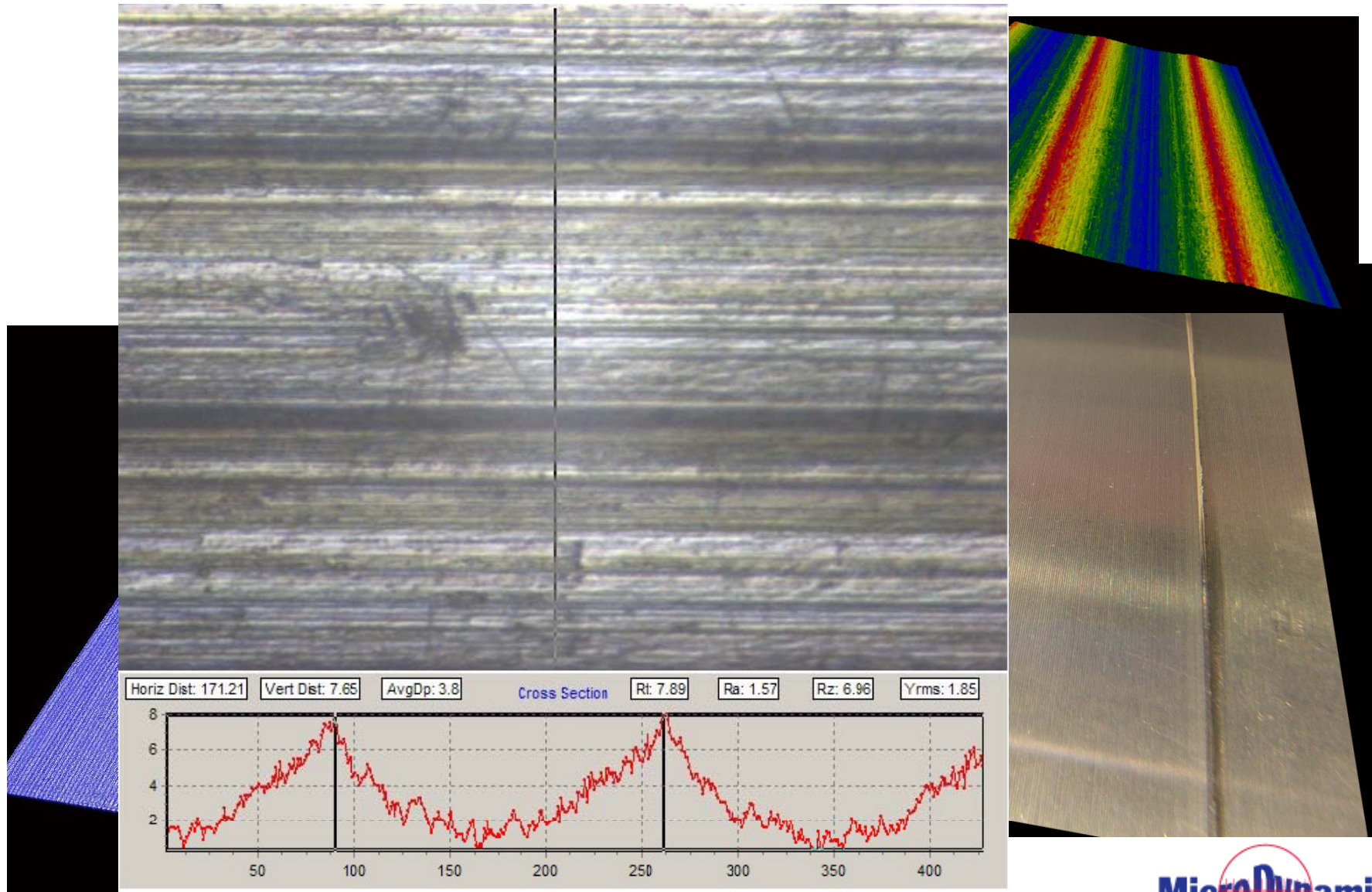
Data Presentation



Data Presentation



Data Presentation



Hardware

