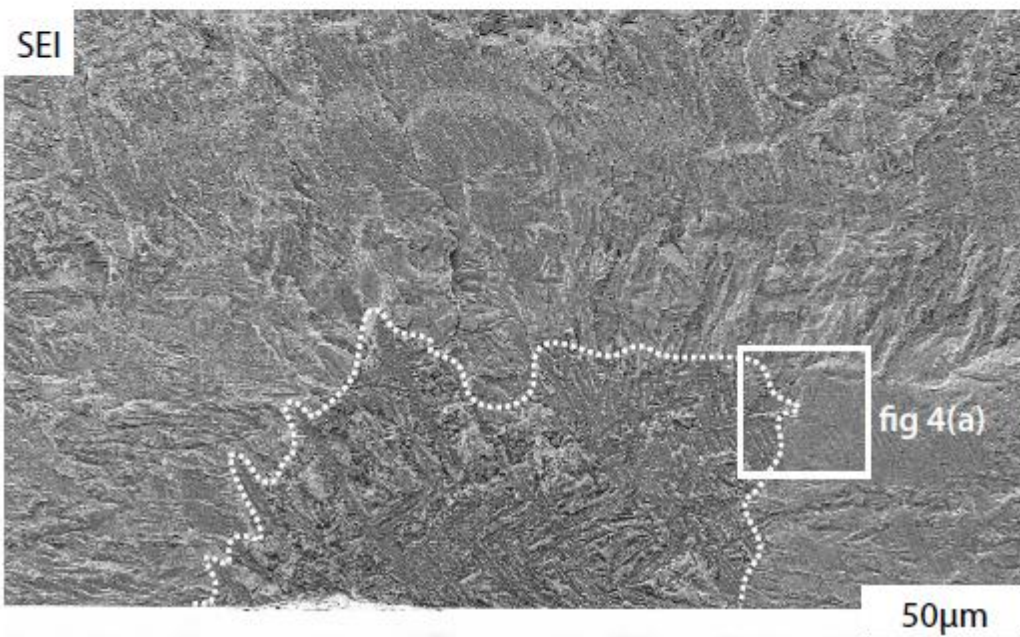
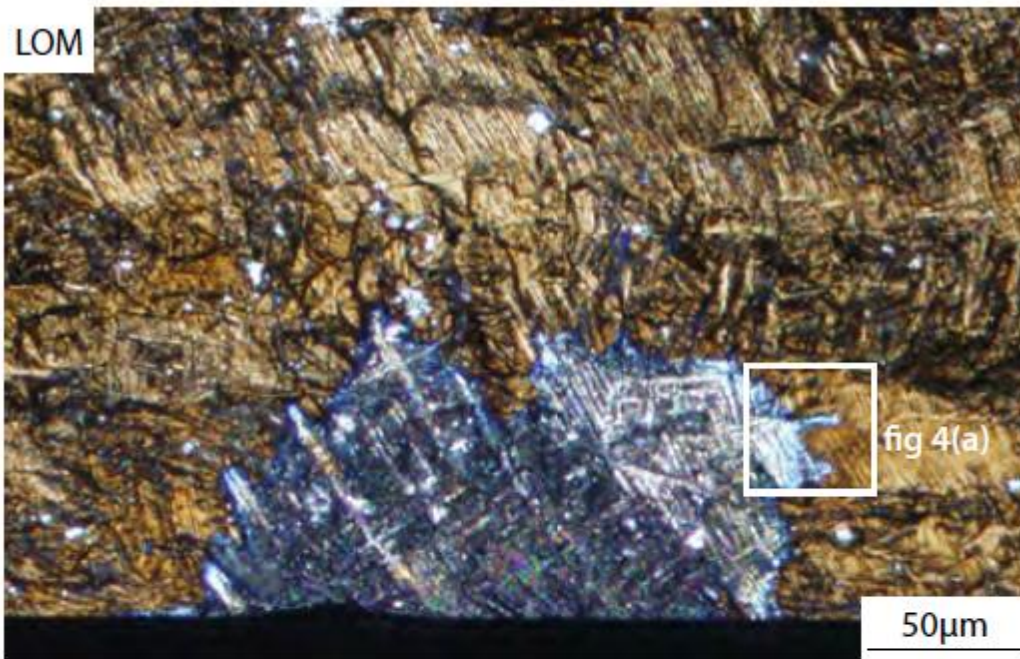


### Colour capabilities of the Zygo Nexview for corrosion investigation

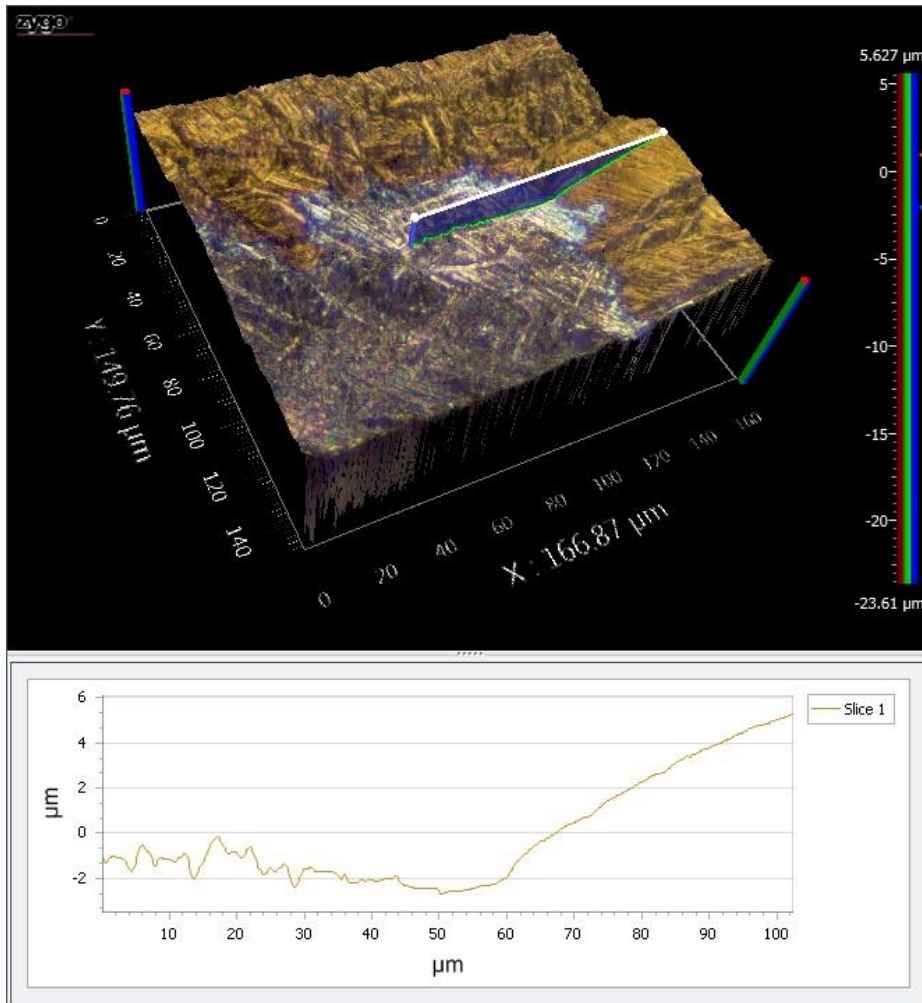
Researchers have investigated the nature of blue corrosion areas in Ti alloys used in aerospace applications. After extensive investigation using Light Optical Microscopy (LOM) and Secondary Electron Imaging (SEI) they were able to identify the same blue area with both techniques. The LOM shows the area well but gives no surface topography, whereas because the SEI is in monochrome it is very difficult to “find” the same area of interest. This is done by trying to recognise features identifiable in both. This is not easy to do and takes many hours to match the regions. Images of this troublesome sample are shown below.



The researchers measured on the Nexview™ 3D Optical Surface Profiler as it can measure feature heights of  $< 1$  nm and measure them in colour.

The first big difference with the Nexview colour mode is that it is easier to find features of interest than the standard monochrome of most similar systems. Colour Mode gives high contrast colour images that allow easy identification of features on the surface under investigation.

In this case it took a few seconds to find the region of interest and then about 20 seconds to make the measurement. It was a truly jaw-dropping experience for the researcher as the Nexview had measured in under a minute what had taken months of work. The 3D surface colour image is shown below showing the differences in striae structure.



This technique is similar in some ways to CLEM (Correlative Light Electron Microscopy) . The Nexview cannot achieve EM resolutions, but the combination of LOM colour information and CSI surface profile height resolution is invaluable for materials research and other applications.