

032524

Metal Corrosion analysis by Scanning electrochemical cell impedance microscopy

To analyse corrosion with more precision, scientists at PNNL (Pacific Northwest National Laboratory) in USA have developed a new technique called scanning electrochemical cell impedance microscopy that offers much more reliable and high-resolution results. In this technique, there are everything needed to initiate the corrosion in a very small tube—or pulled capillary—including the electrolyte, reference, and current-collecting electrode. By landing the tiny opening of this capillary on the surface, localized and time-dependent electrochemical properties are measured without getting any interference from nearby regions. That helps us capture weak and strong spots on the surface prone to corrosion, which are otherwise lost when doing the bulk-scale measurement and formulate-suitable mitigation strategies. (Source: Sridhar Niverty et al, *Scientific Reports* (2023)).