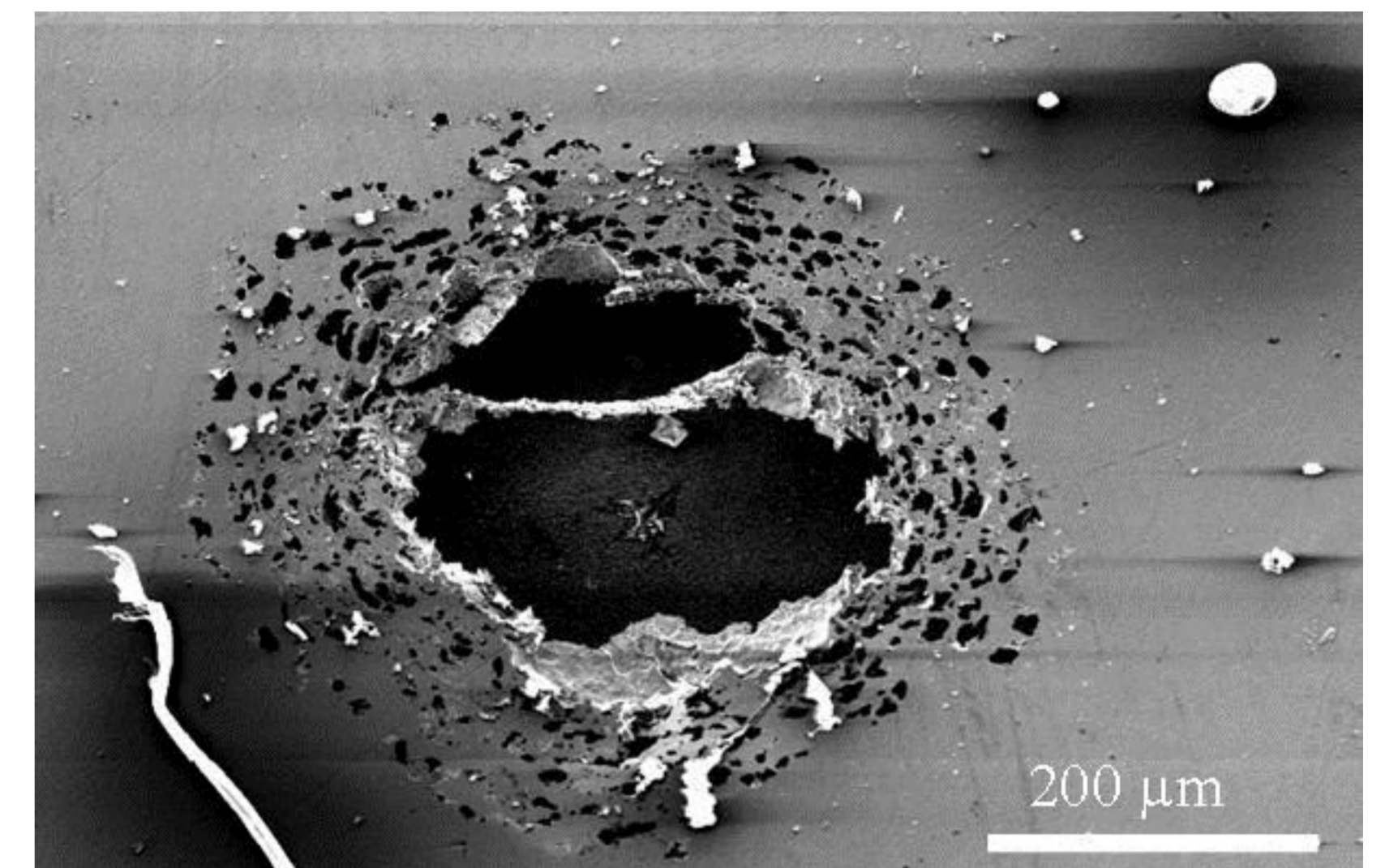


Keywords: corrosion, surface treatment, galvanic coupling, electrochemical impedance spectroscopy

Contact

○ Sophie REGNIER

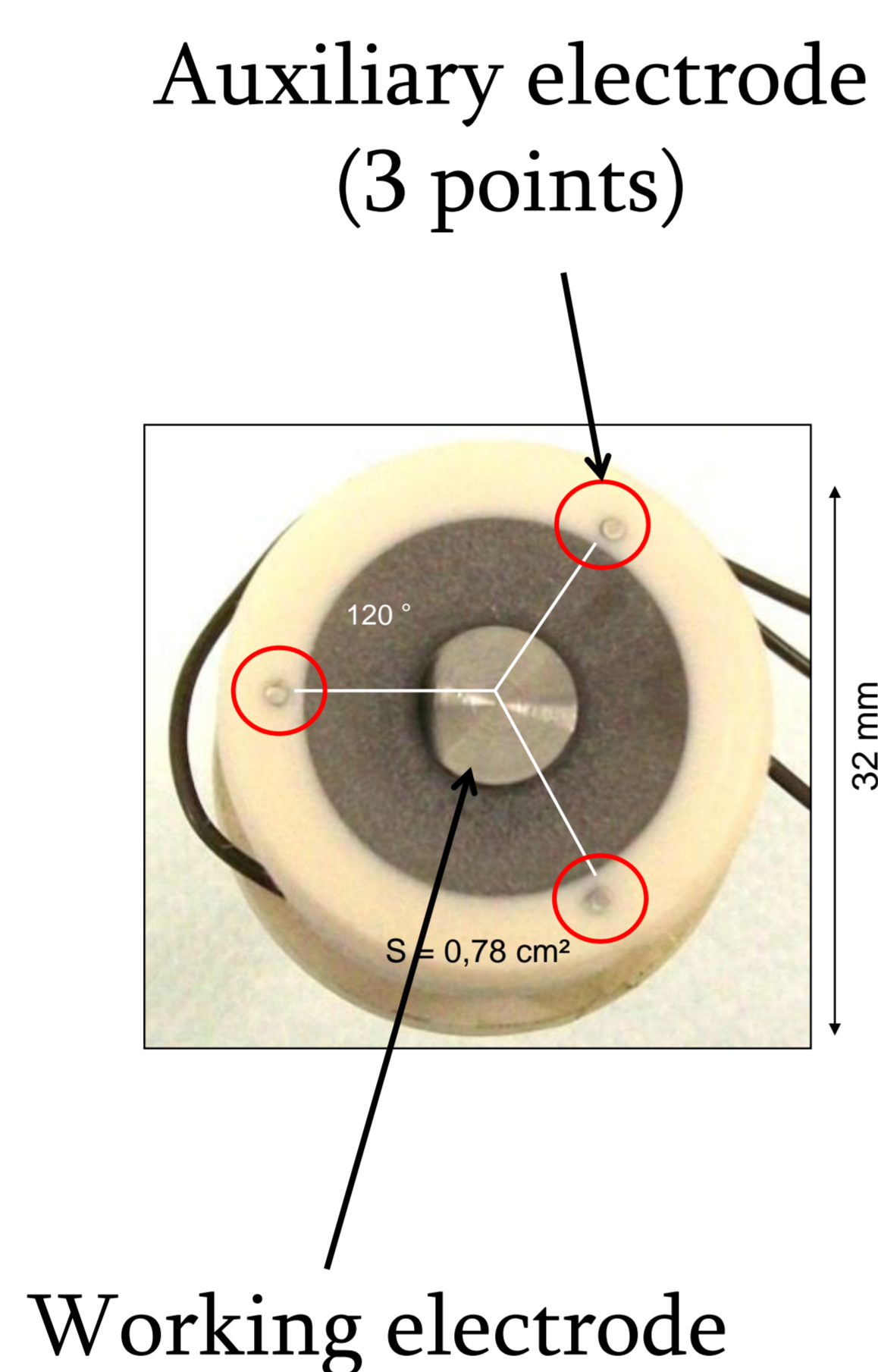
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Localized corrosion on stainless steel (Scanning Electronical Microscopy)



Thin layer cell and electrodes, used to reproduce crevice corrosion conditions



Applied Research purpose

Corrosion Resistance properties: how could they be improved using internal or external way?

- Experimental measurements of corrosion characteristics (corrosion potential, corrosion current, passivity current etc)
- Comparison of various materials/electrolyte behaviour by galvanic coupling tests – classification according to a galvanic scale
- Local and global Electrochemical Impedance Spectroscopy
- Laboratory adaptation of real corrosion cases

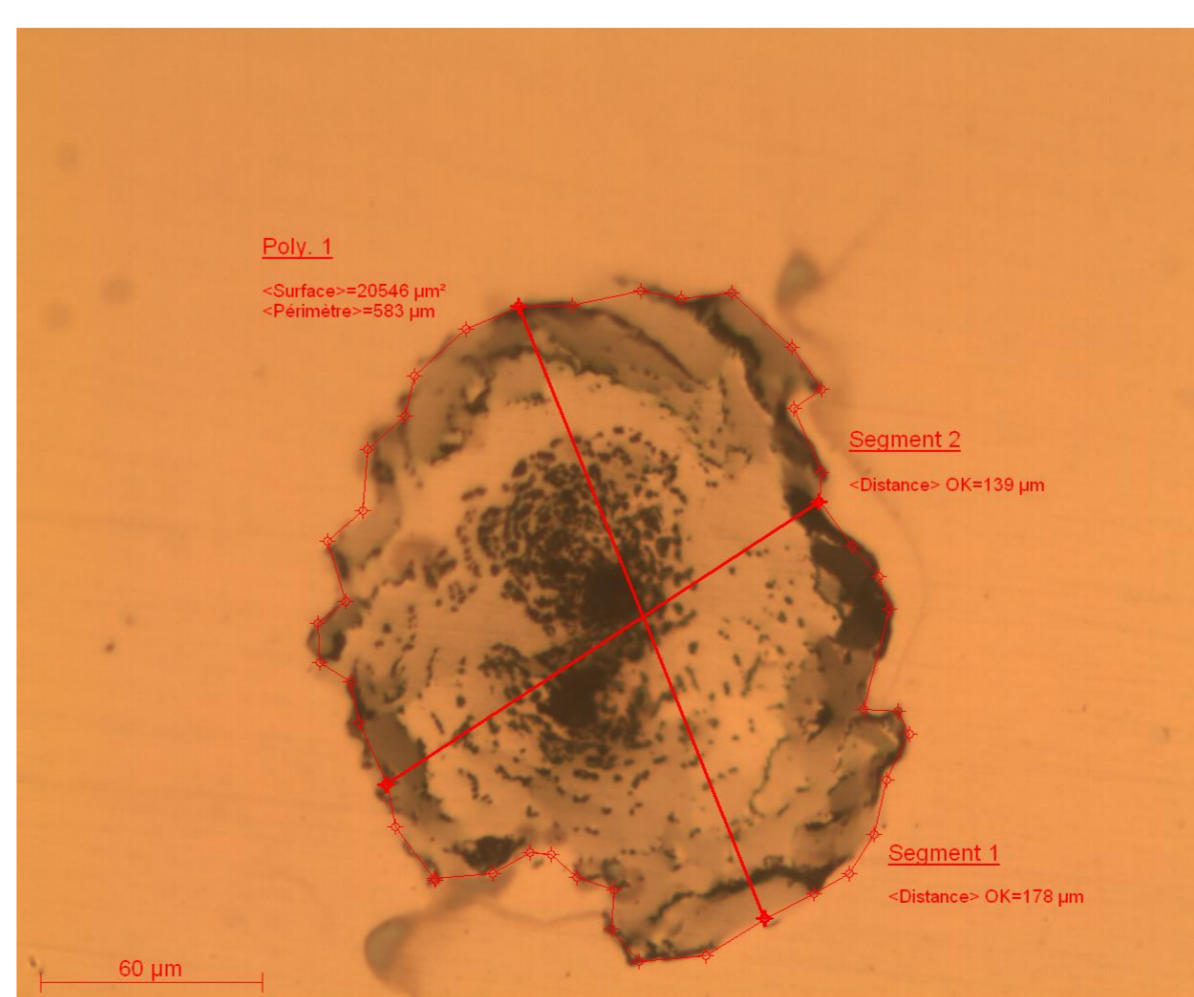
Skills applied

- Specific corrosion test bench design and development
- Galvanic coupling tests including galvanic scale plotting
- Laboratory experiments to reproduce real-use conditions
- Characterisation of corrosion types using microscopic observations of the sample surface and with other technical devices (OM, SEM, modelling...)

Tested materials: stainless steel, aluminium alloys, titanium alloys with or without surface treatments (passivation, specific anodic oxidation, electrochemical polishing)

real local degradation

"Pit building" by modelling



CREVICE CORROSION

