

Investigation of the Effects of Corrosion on Aircraft Transmission Lines

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Presentation Outline

Background

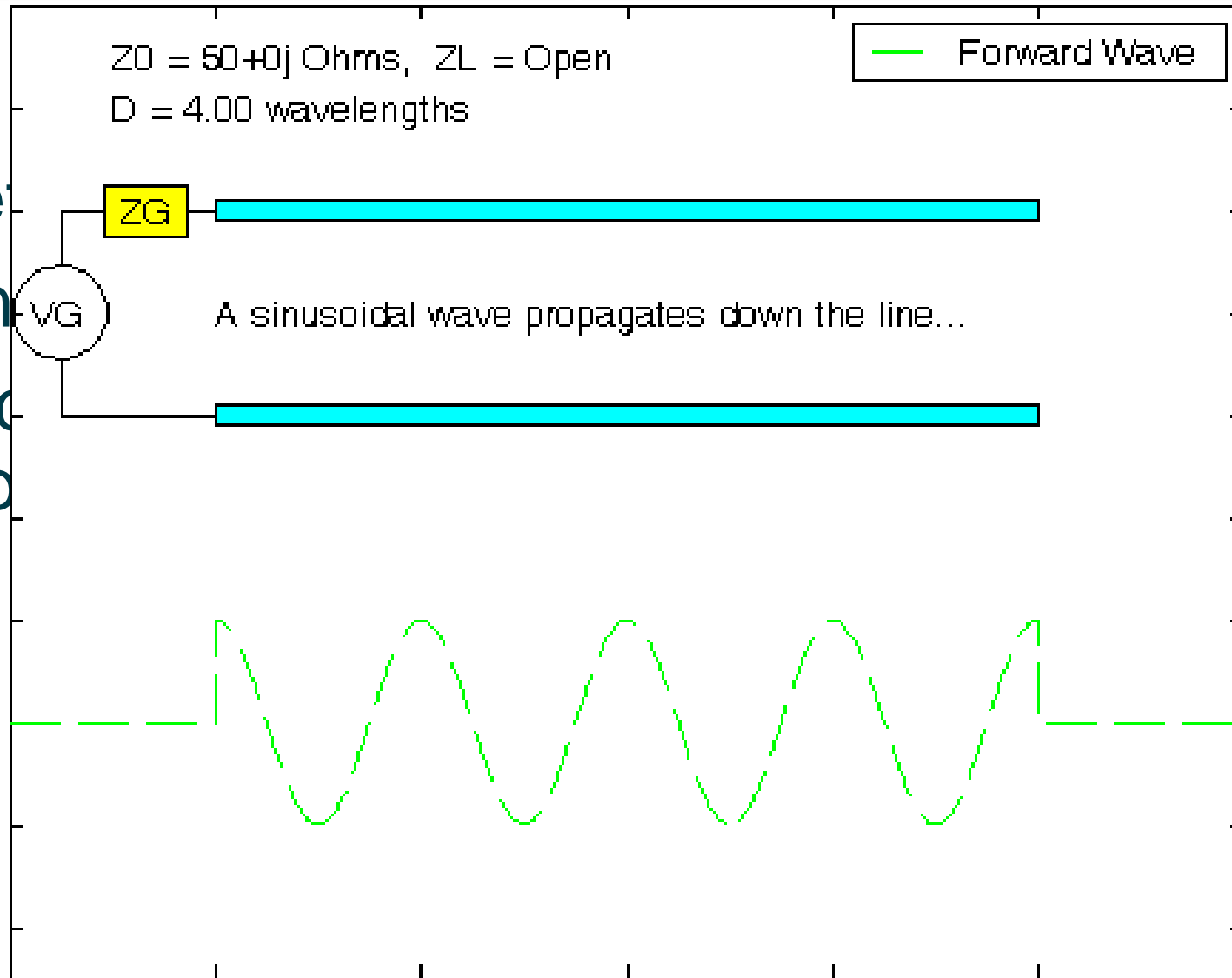
Research objectives

Experimental plan and setup

Results and Conclusion

Acknowledgement

- ▶ Signal re
- ▶ AFDX an
- Not detec
- catastrop



Research objectives

To develop methods and means for diagnosis and prognosis of Aircraft Transmission Lines

- ❖ Determine the system behavior under environmental factors:
 - ❖ Corrosion (In progress)
 - ❖ Heat
 - ❖ Vibration
 - ❖ Electromagnetic waves
- ❖ Develop statistical theory
- ❖ Proceed with development of methods

Experimental plan and setup

Accelerated Corrosion Chamber Q-Fog CCT-600



G85 Prohesion Test conducted that simulates Aircraft environment







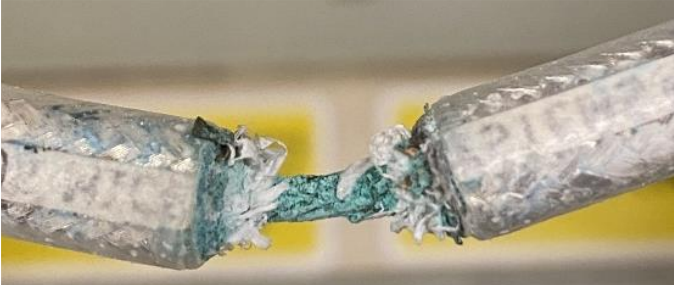


Wires are taken each 168hours and measured, then placed back into the chamber

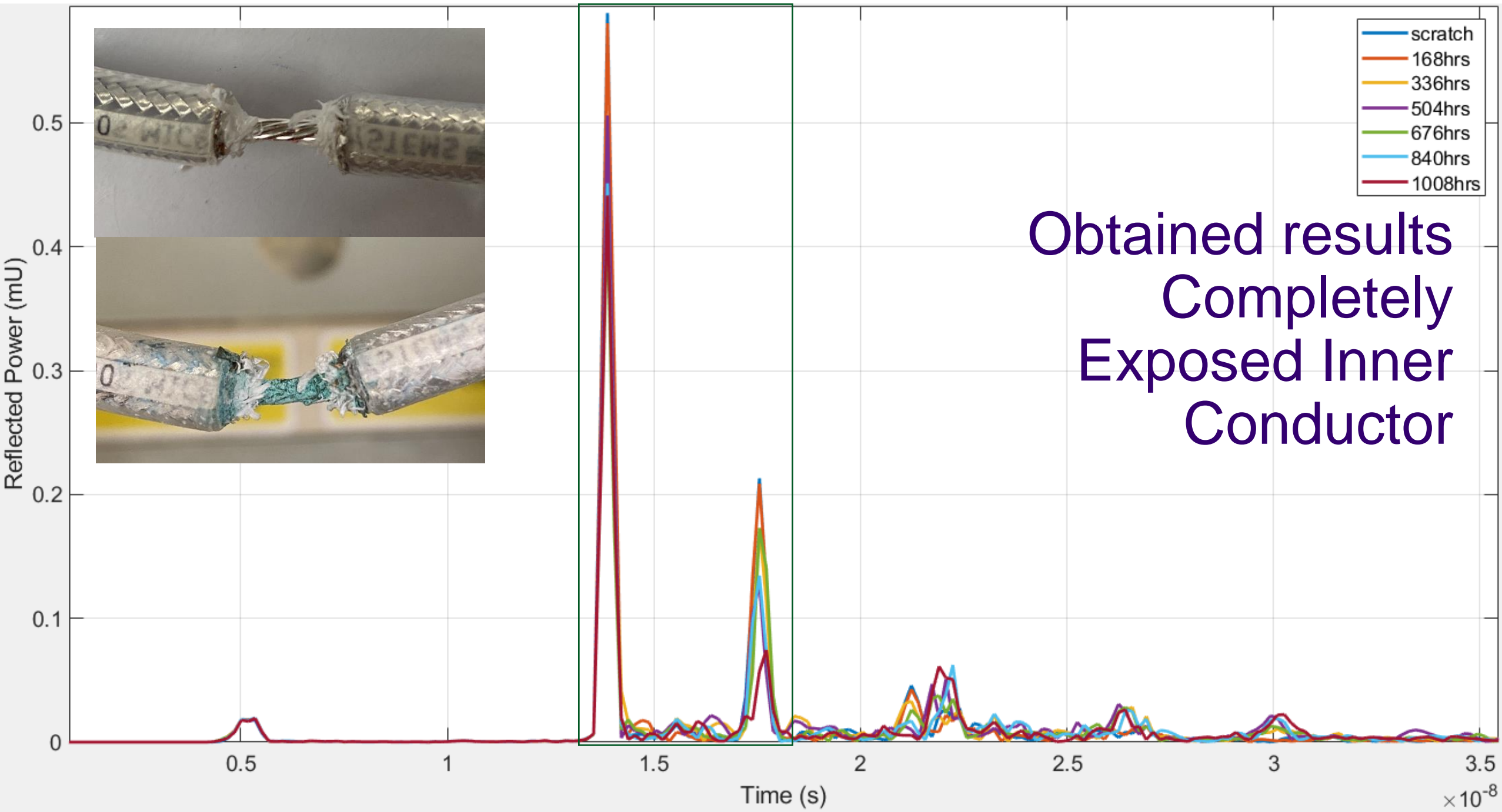


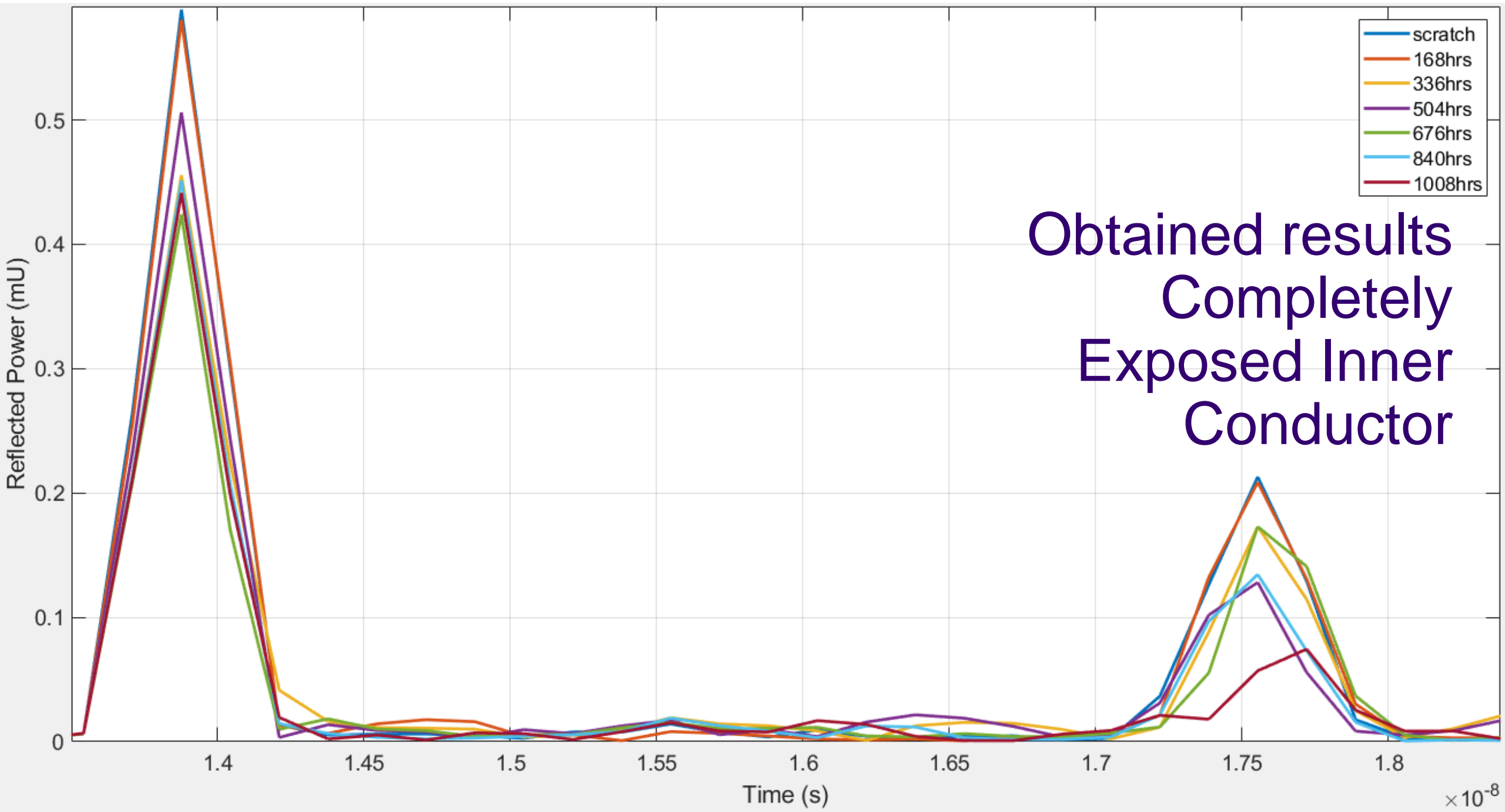
3 types of damages were induced



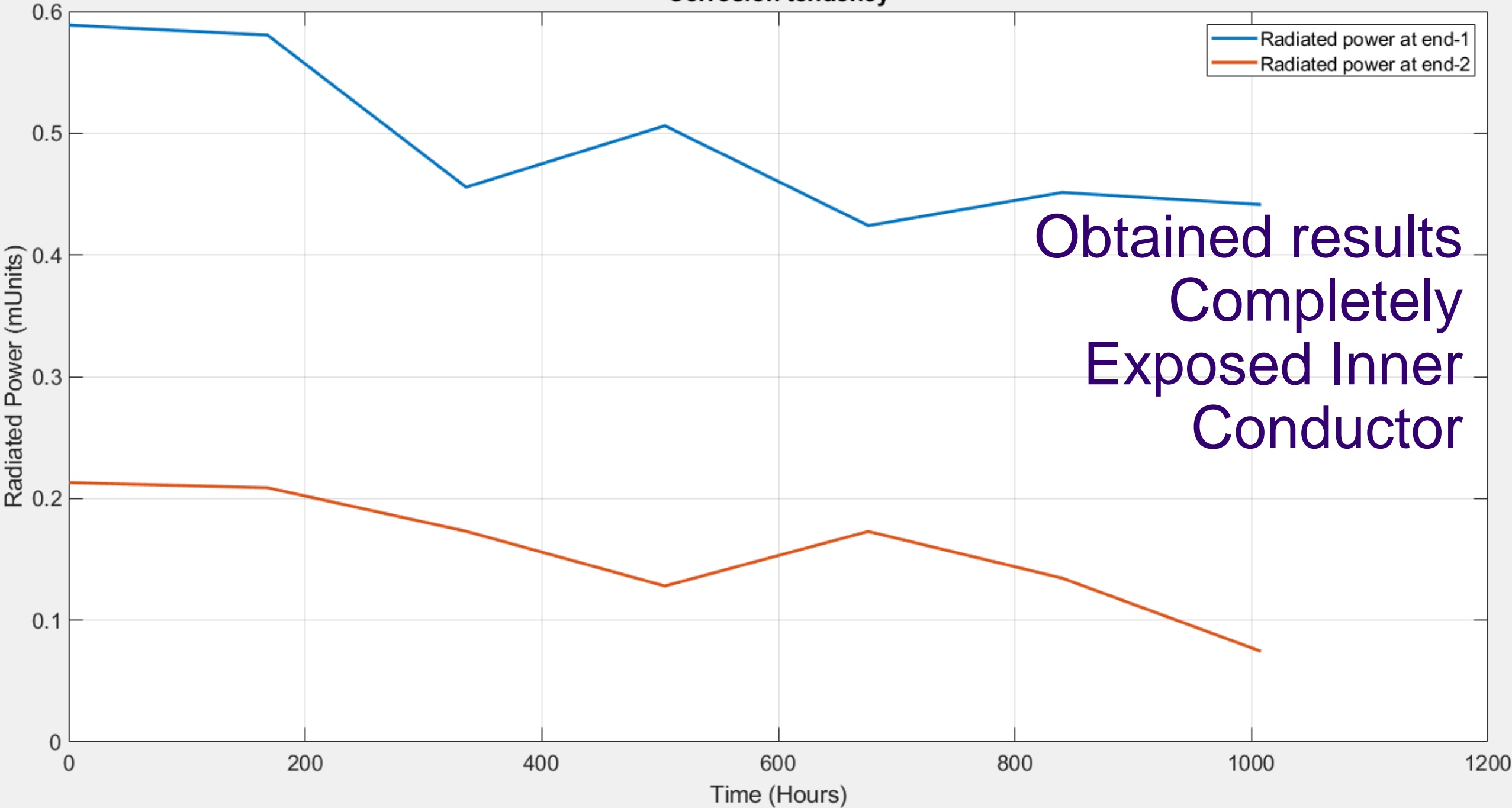
Obtained results

	Completely exposed inner conductor	Exposed outer conductor	Exposed inner conductor
Before exposure in corrosive environment			
After 168hrs of exposure in corrosive environment			
After 840hrs of exposure in corrosive environment			

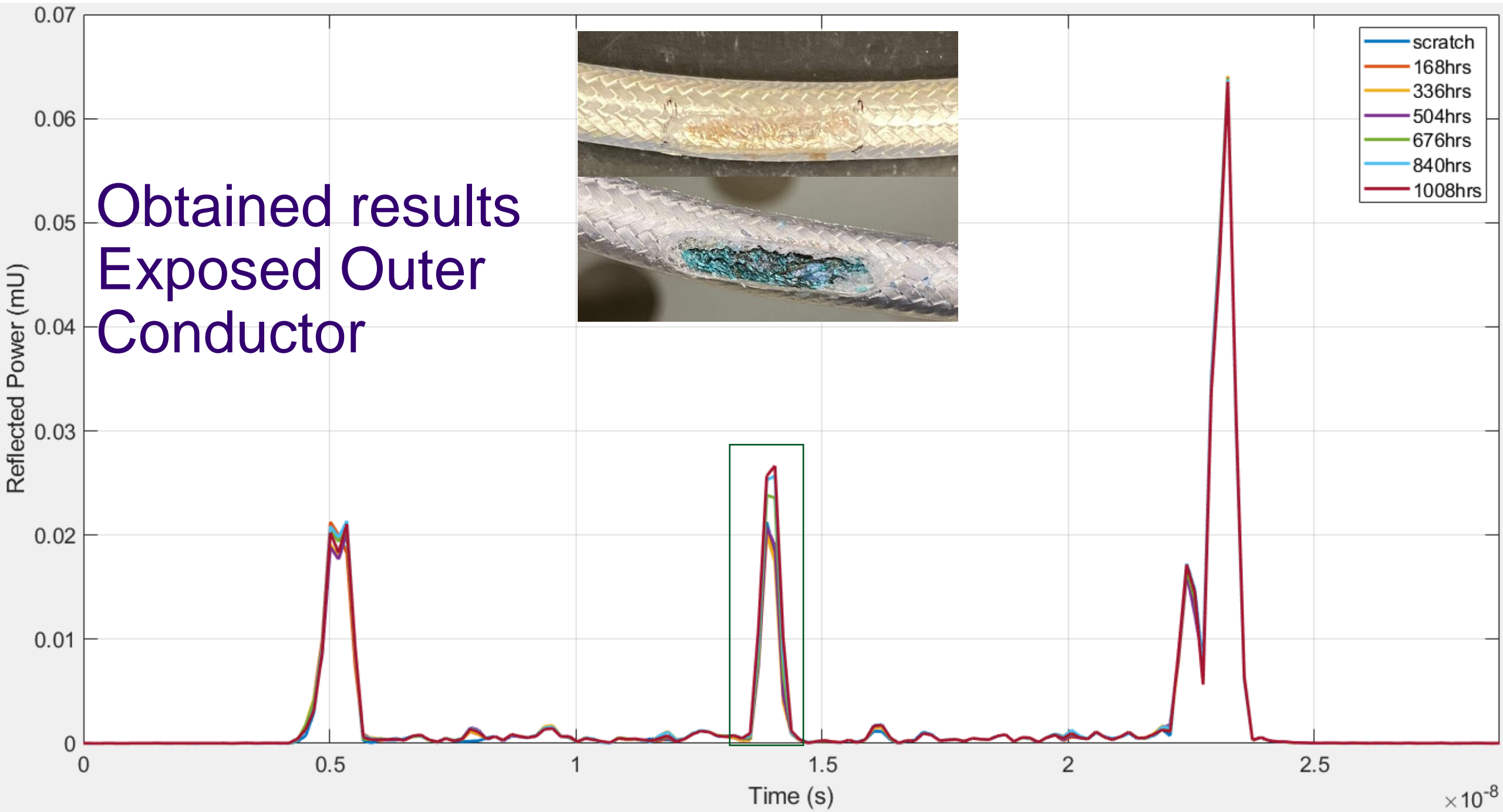




Corrosion tendency



Obtained results
Completely
Exposed Inner
Conductor

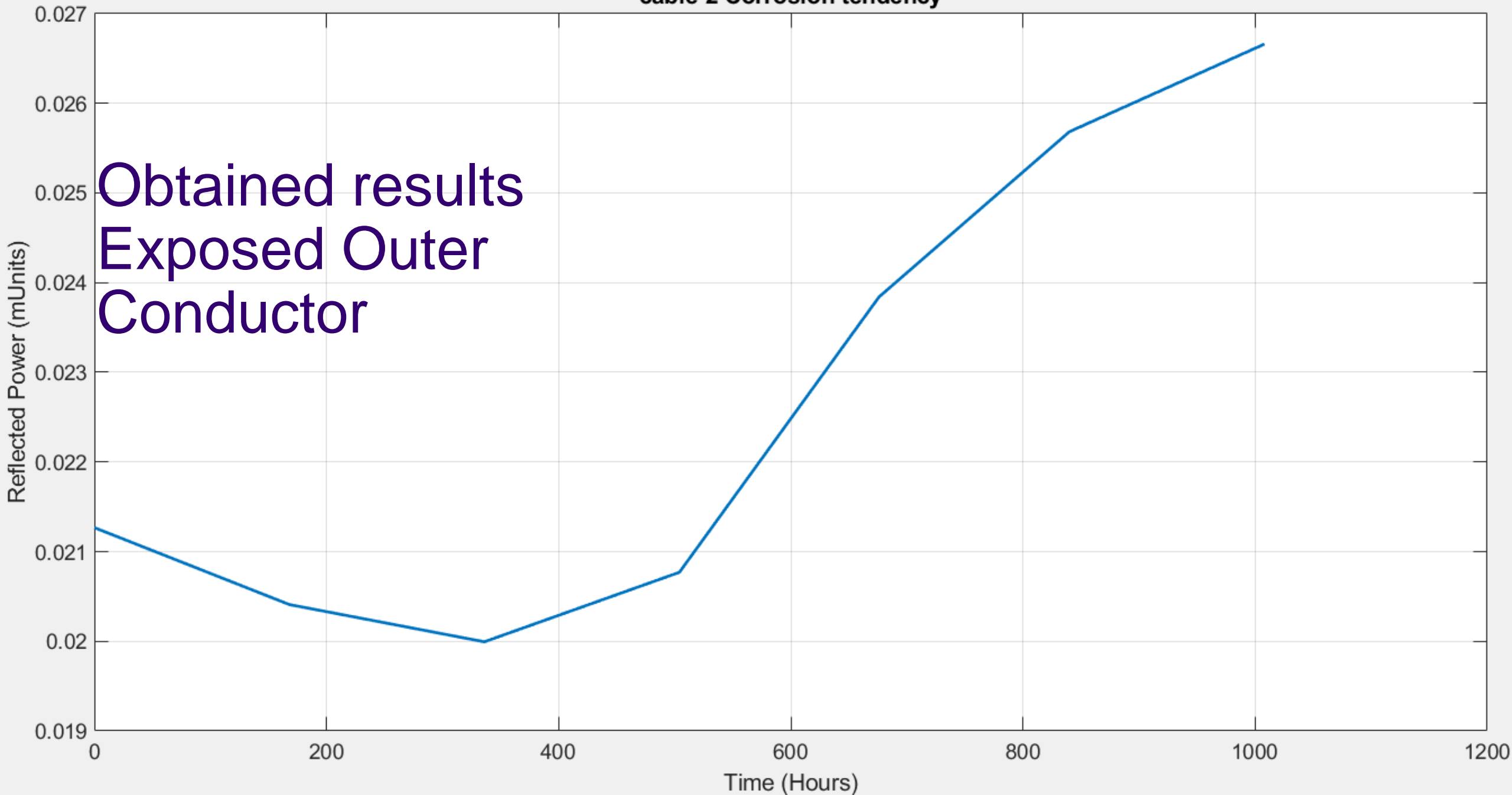


Obtained results
Exposed Outer
Conductor



- scratch
- 168hrs
- 336hrs
- 504hrs
- 676hrs
- 840hrs
- 1008hrs

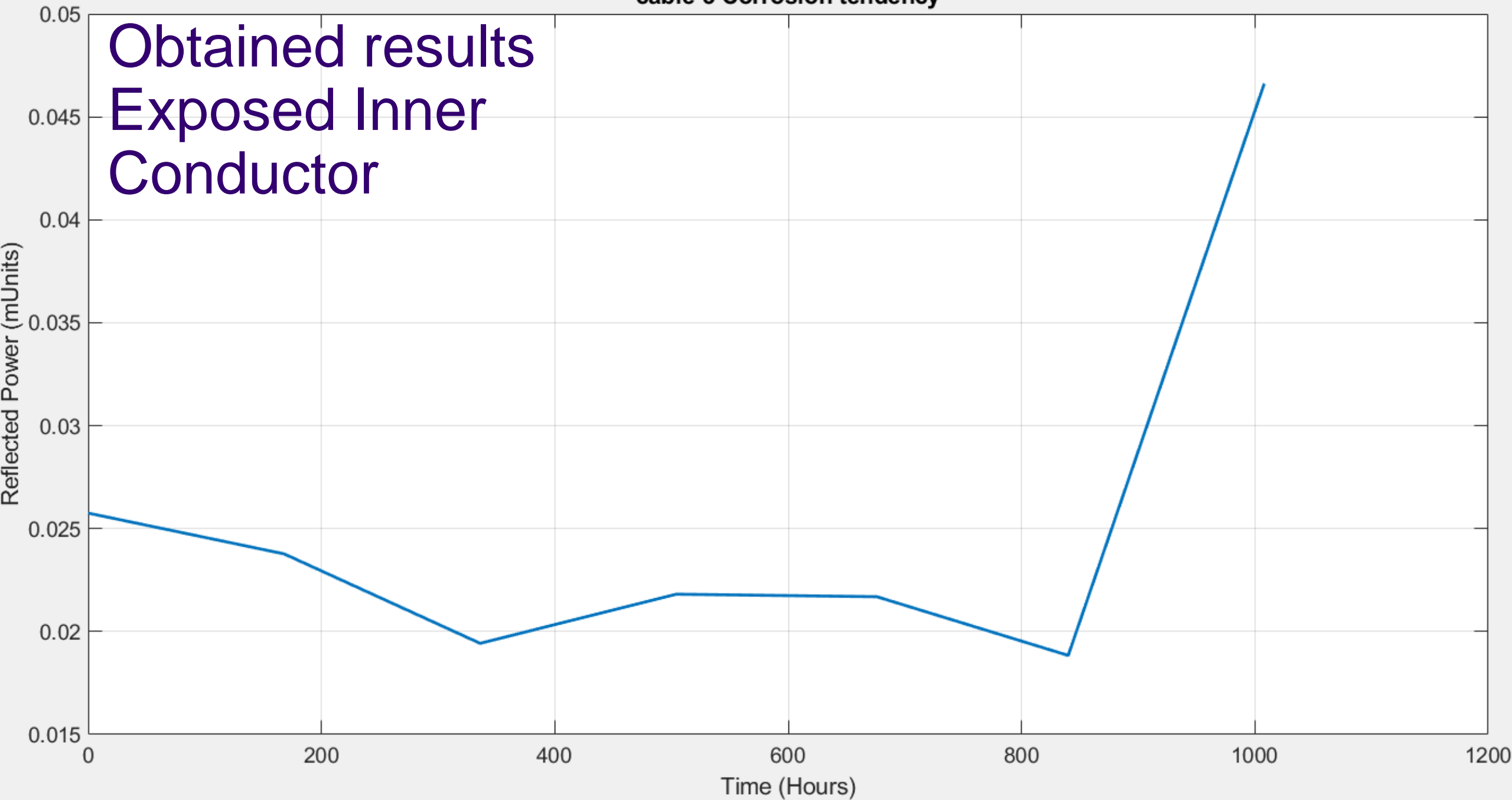
cable-2 Corrosion tendency



**Obtained results
Exposed Outer
Conductor**

cabl-3 Corrosion tendency

**Obtained results
Exposed Inner
Conductor**



Acknowledgement

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QUESTIONS

