

SNL NDE Lab Equipment and Applications

45th Weapons Agency Nondestructive
Testing Organization Meeting

November 1, 2011

Sandia National Laboratories

Experimental Mechanics/NDE & Model Validation

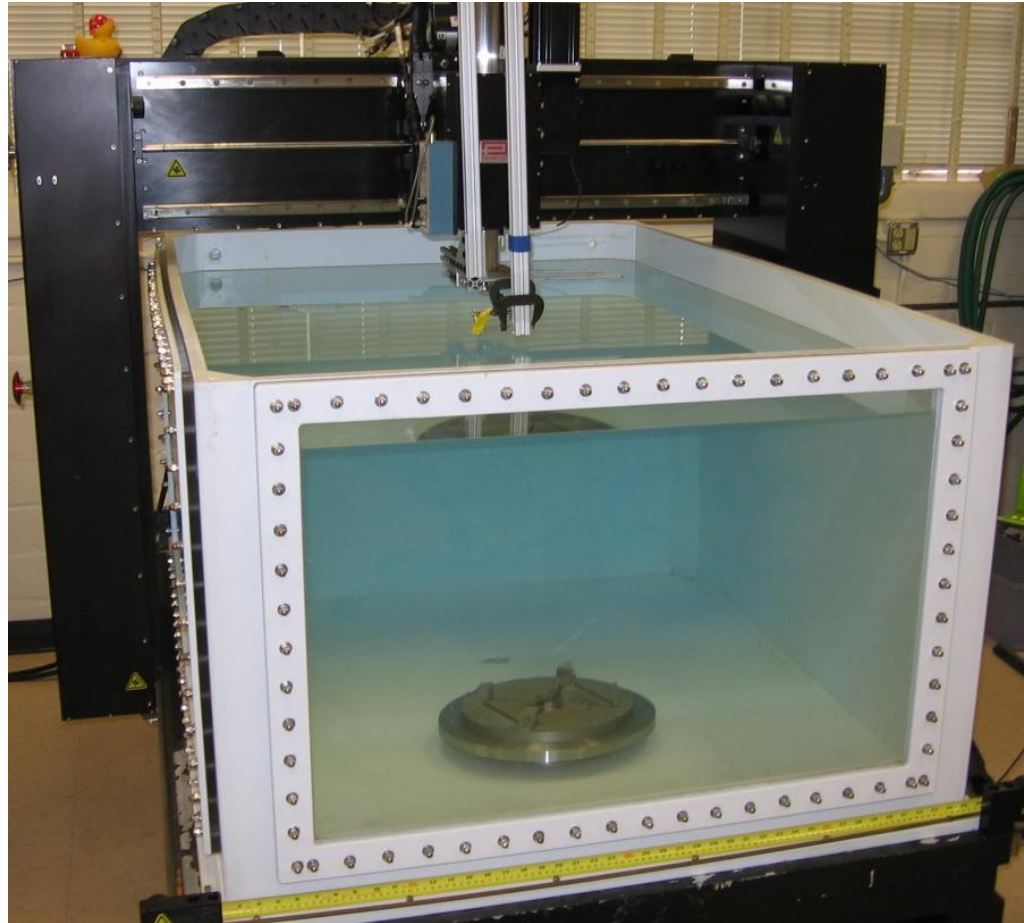
Non Destructive Test Laboratory

Kevin D. Rolfe (505) 844-3415

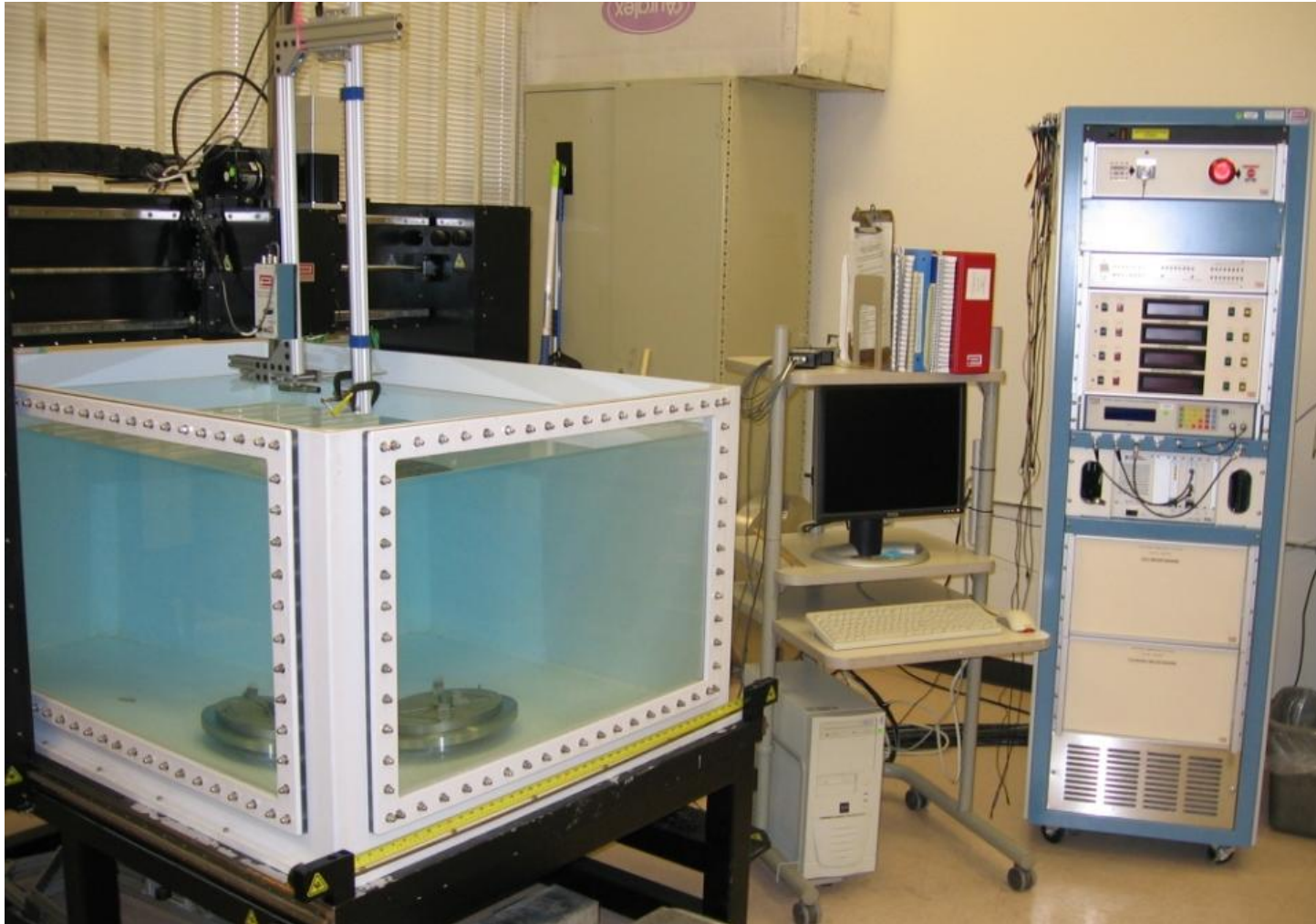
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Overview

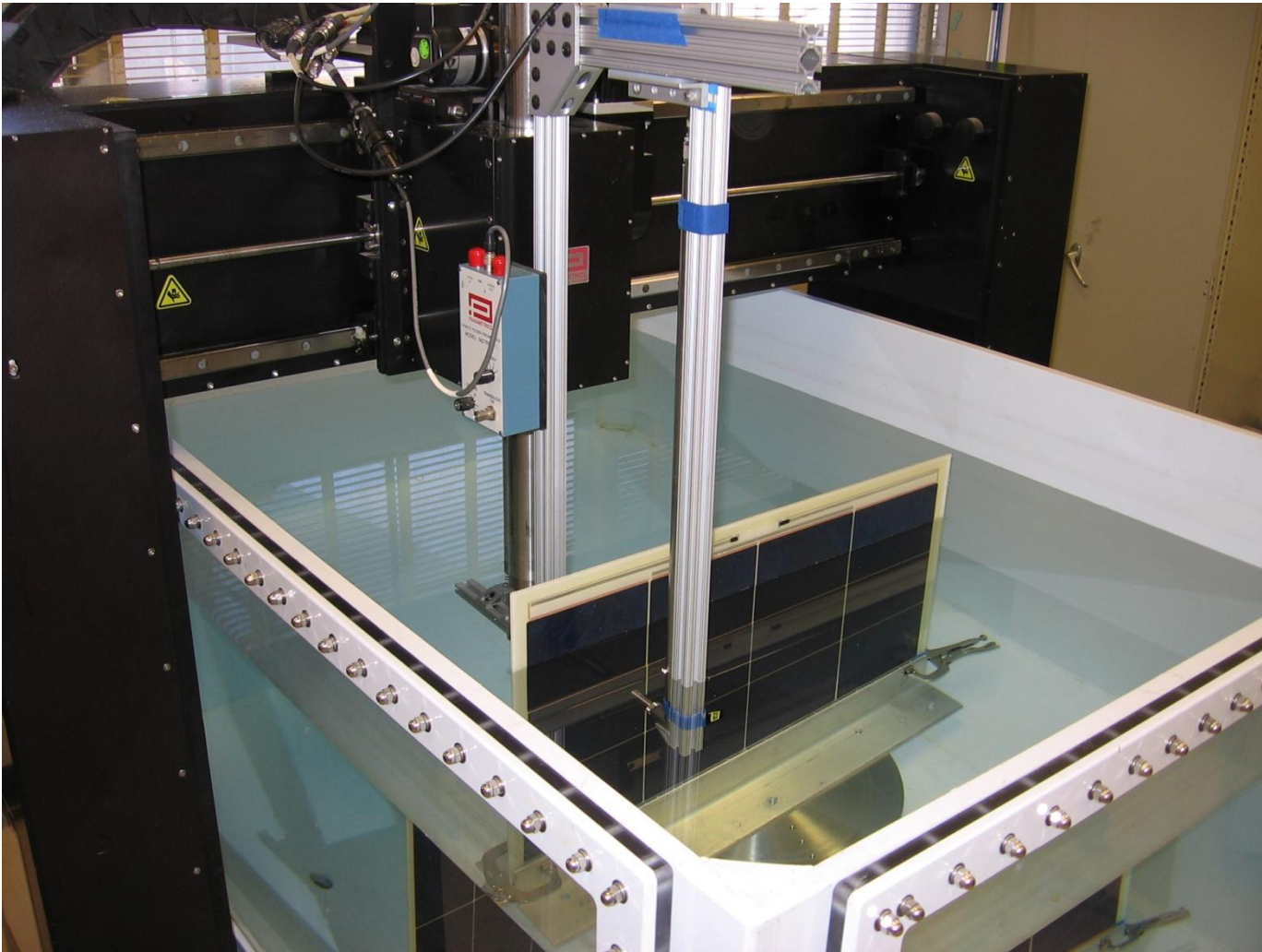
- NDE Lab
- Ultrasonic
 - Immersion
 - Contact
- Eddy Current
- Dye Penetrant
- Thermography



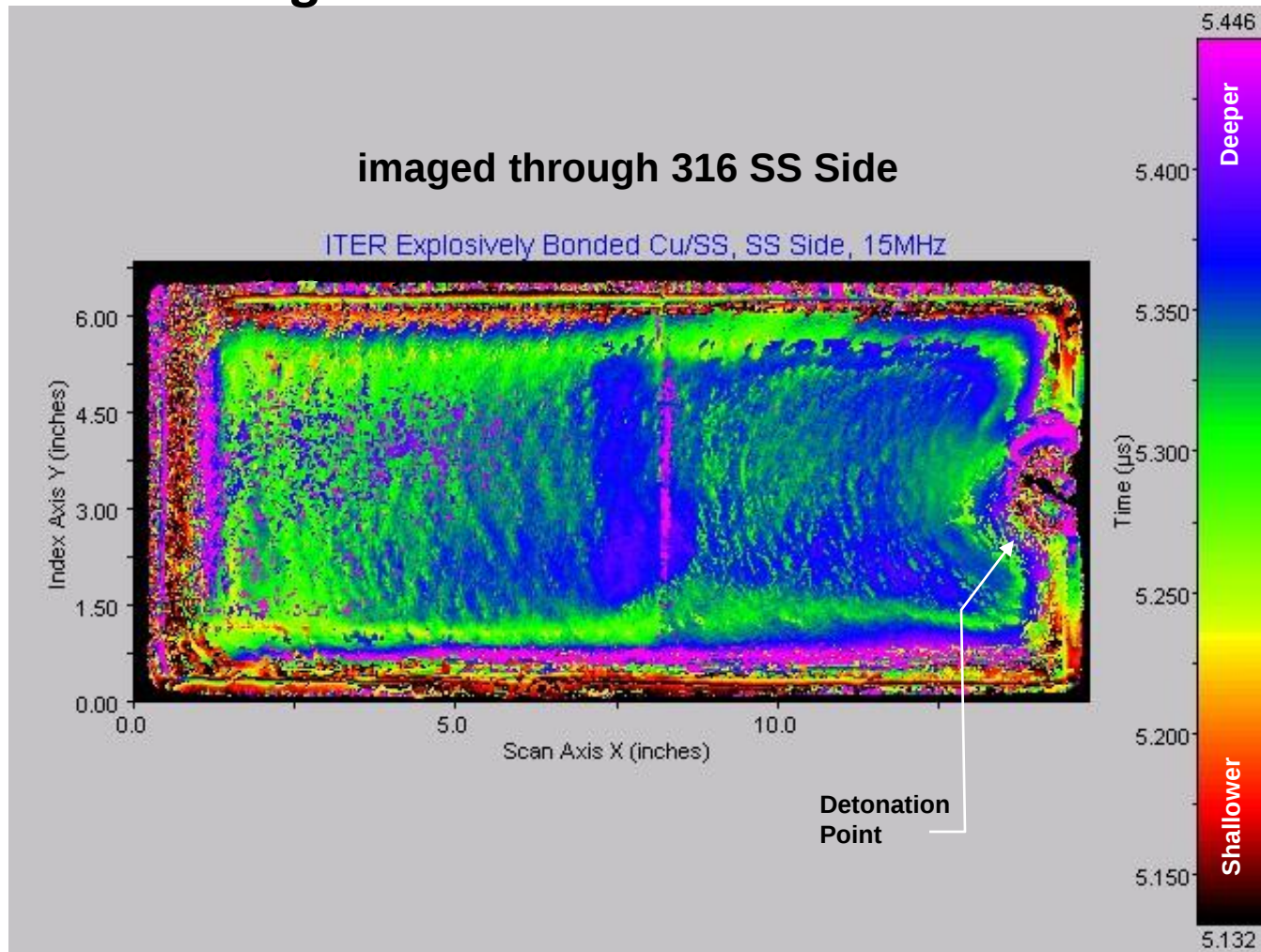
Panametrics 300 Gallon Tank Immersion System



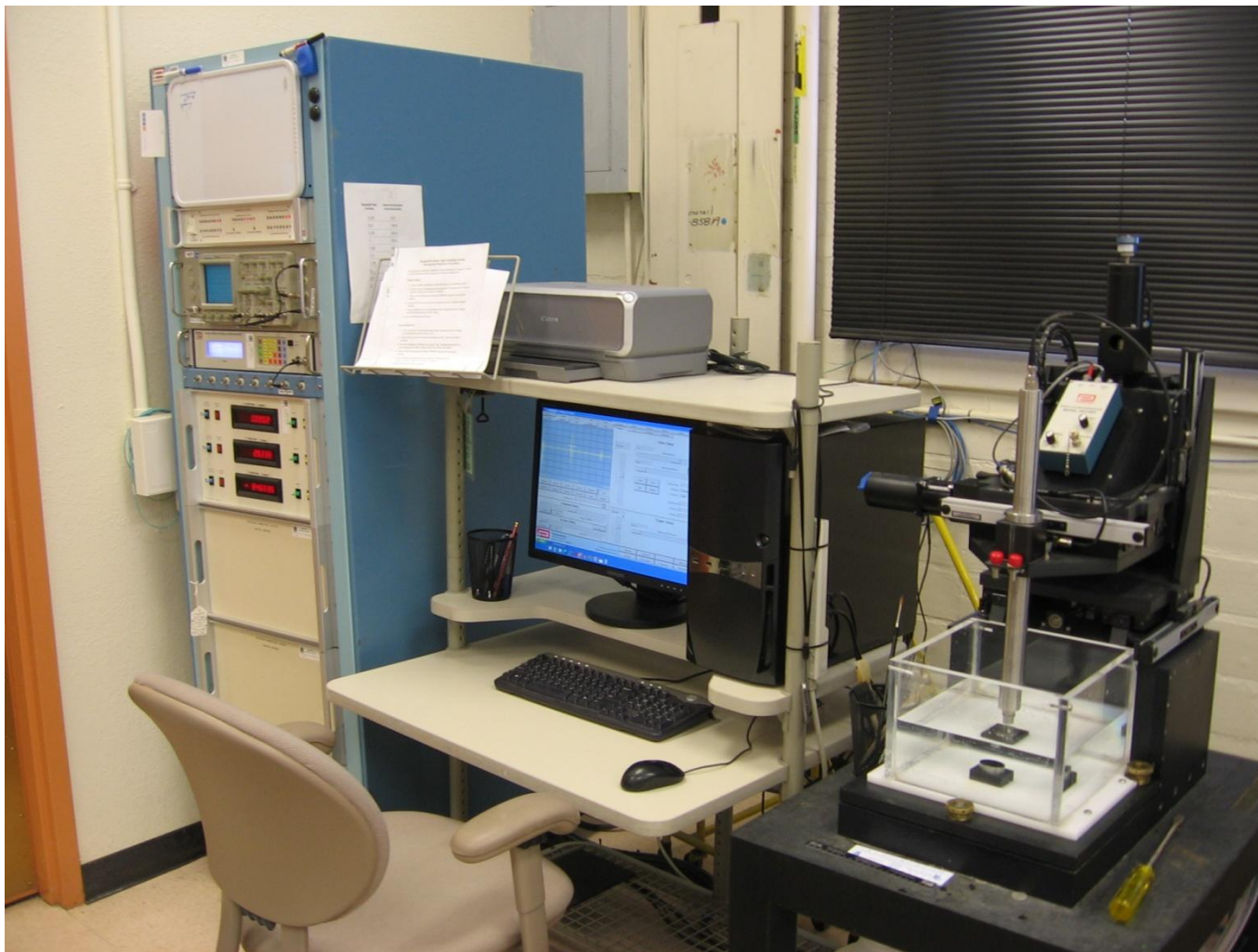
TTU Setup for Photovoltaic Panel Inspection



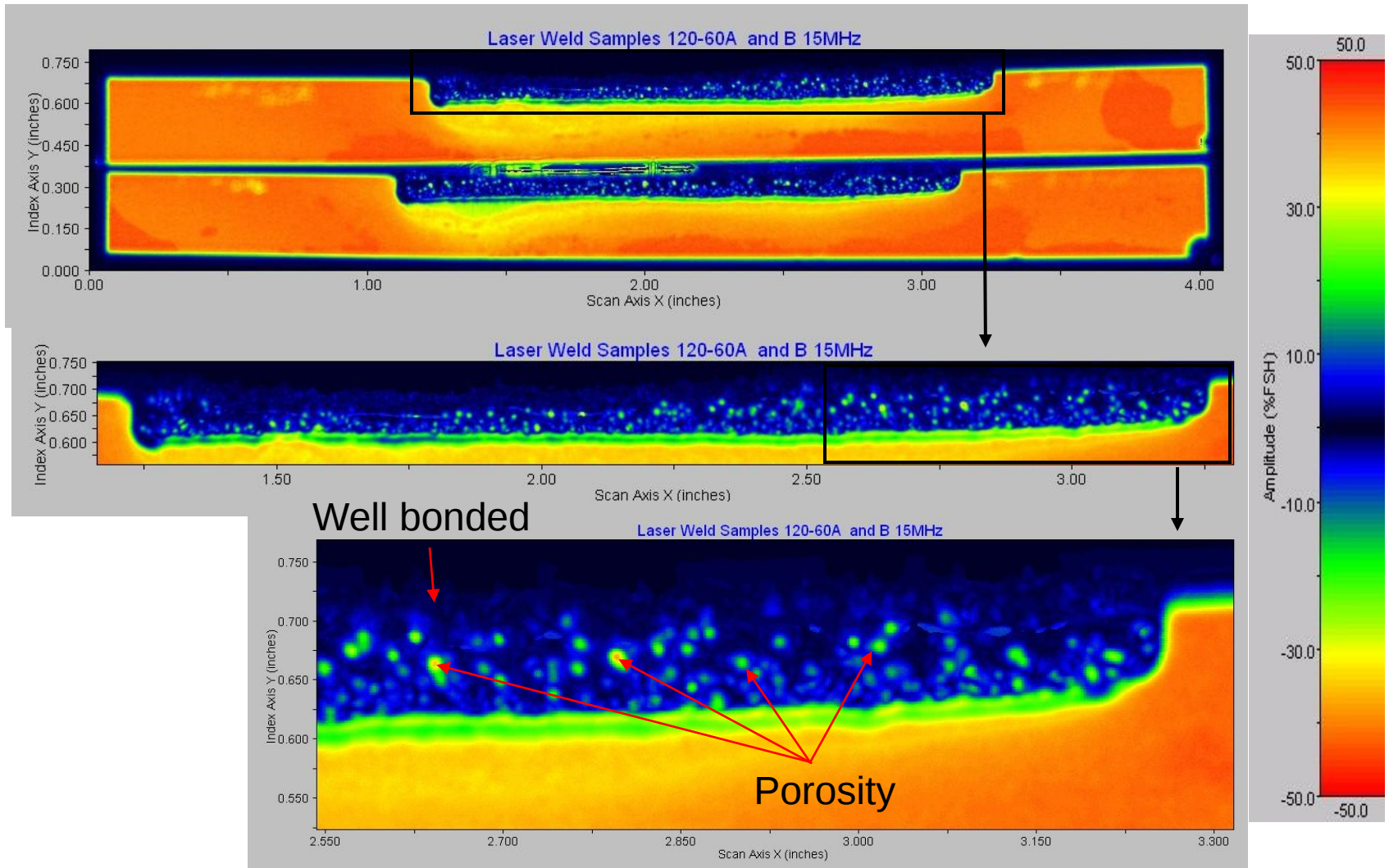
Time of Flight C-Scan of CuCrZr–316 SS Interface



Panametrics 2 Gallon Tank Immersion System



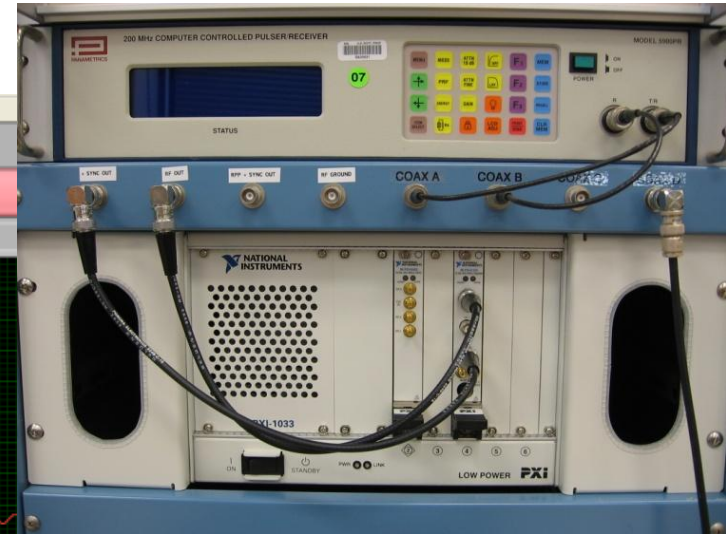
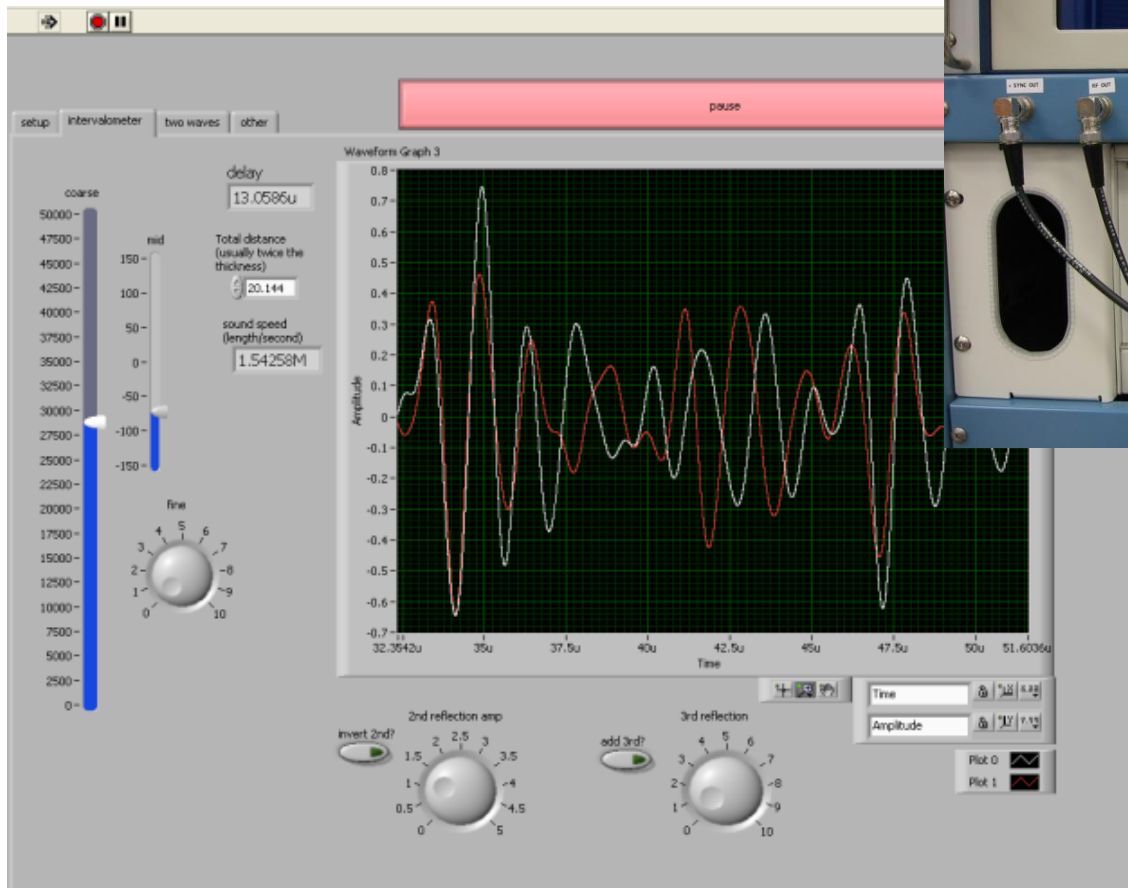
Laser Weld Inspections



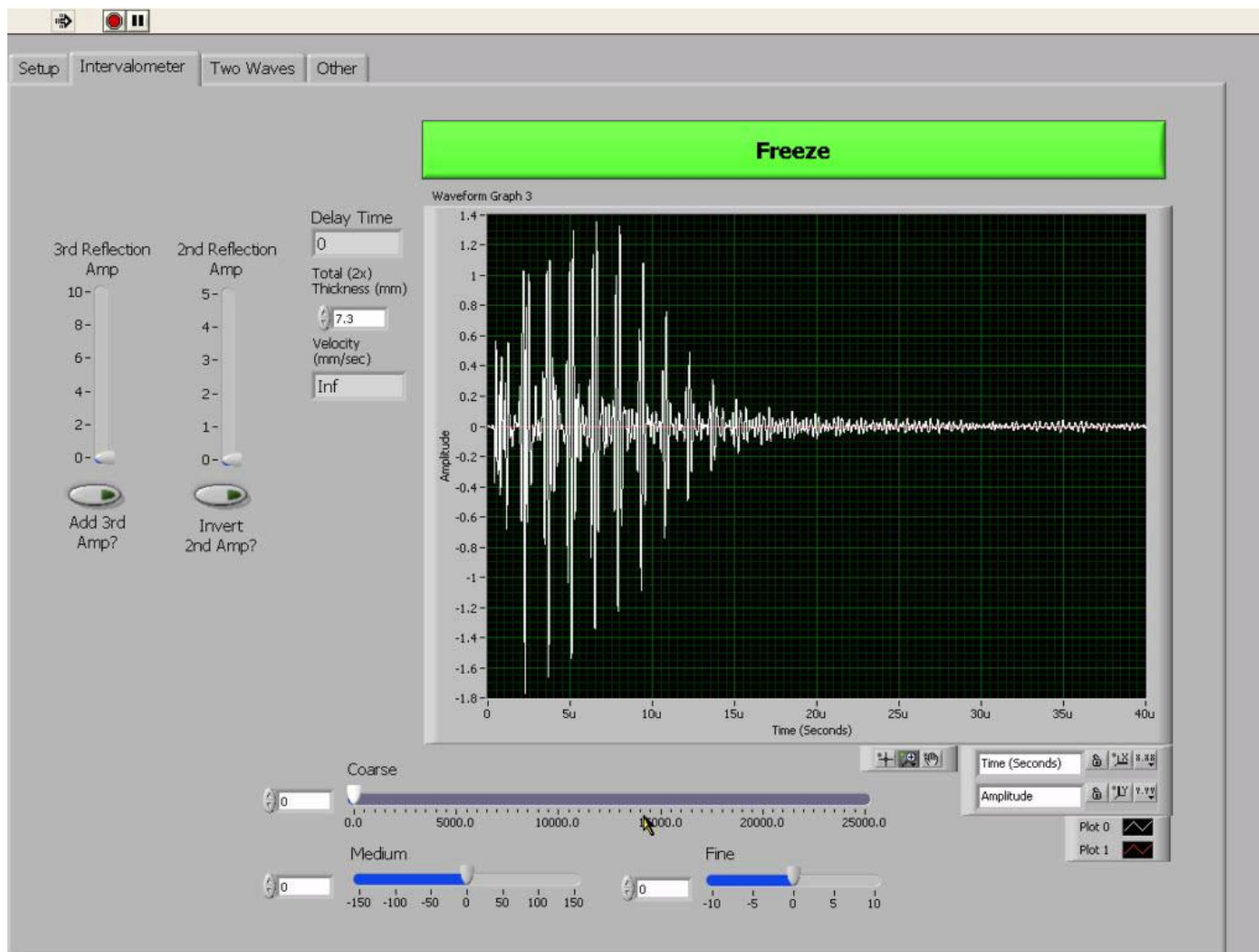
Sonix Immersion Tank



LabVIEW Ultrasonic Contact Testing

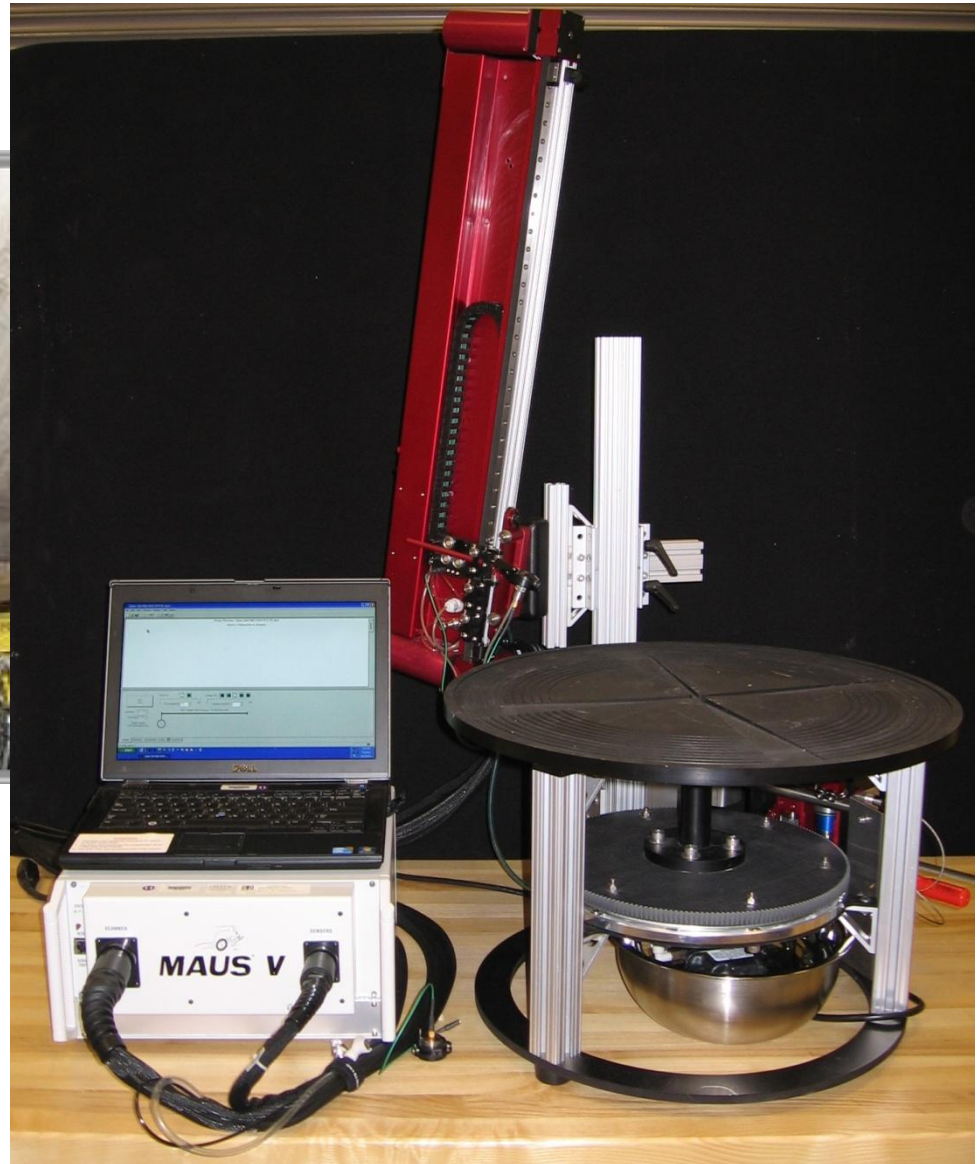


LabVIEW Ultrasonic Contact Testing





Boeing MAUS[®]V



Olympus Omniscan



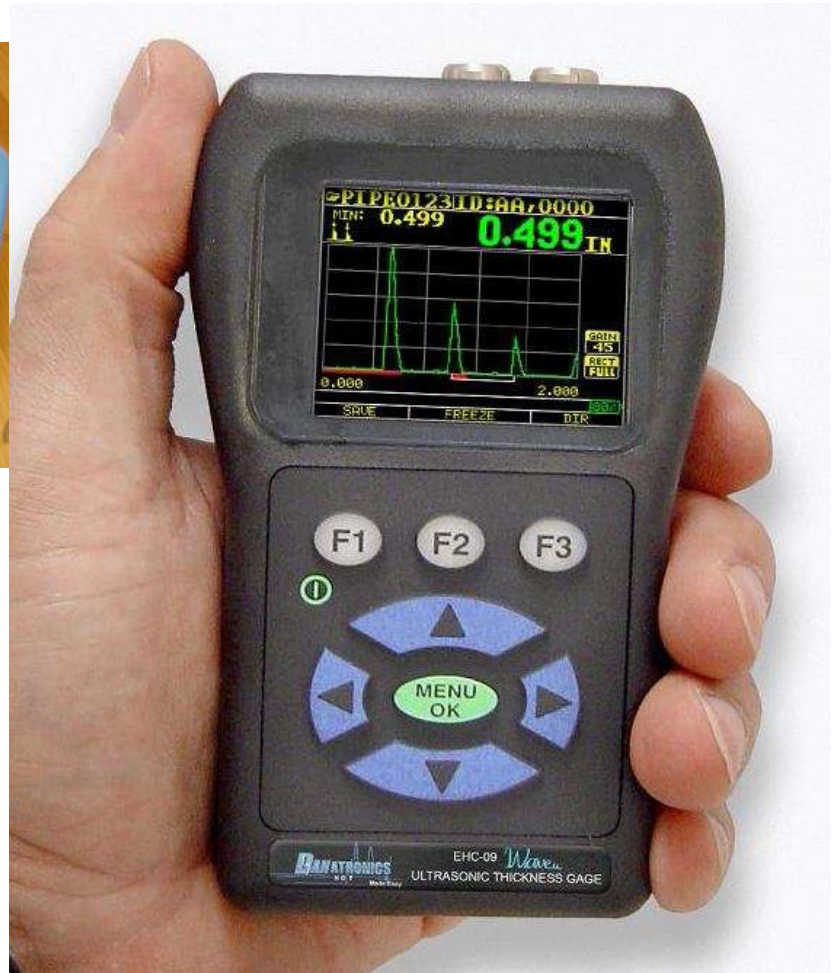
Staveley Workstation 2000



Ultrasonic Thickness Gages



From this



to this

Thermal Wave Imaging VoyagIR



Thermal Wave Imaging EchoTherm





Summary

- 2 ¼ Ultrasonic Immersion Systems
 - Upgrade small system
 - New/upgrade mid-sized system
- Contact Ultrasonic and Eddy Current
 - Material Properties with LabView
 - MAUS[®]V Scanning system
 - Olympus OmniScan and Stavely Workstation 2000 (EC)
 - Thickness Gages
- Thermal Imaging
 - VoyagIR
 - EchoTherm



Questions?