

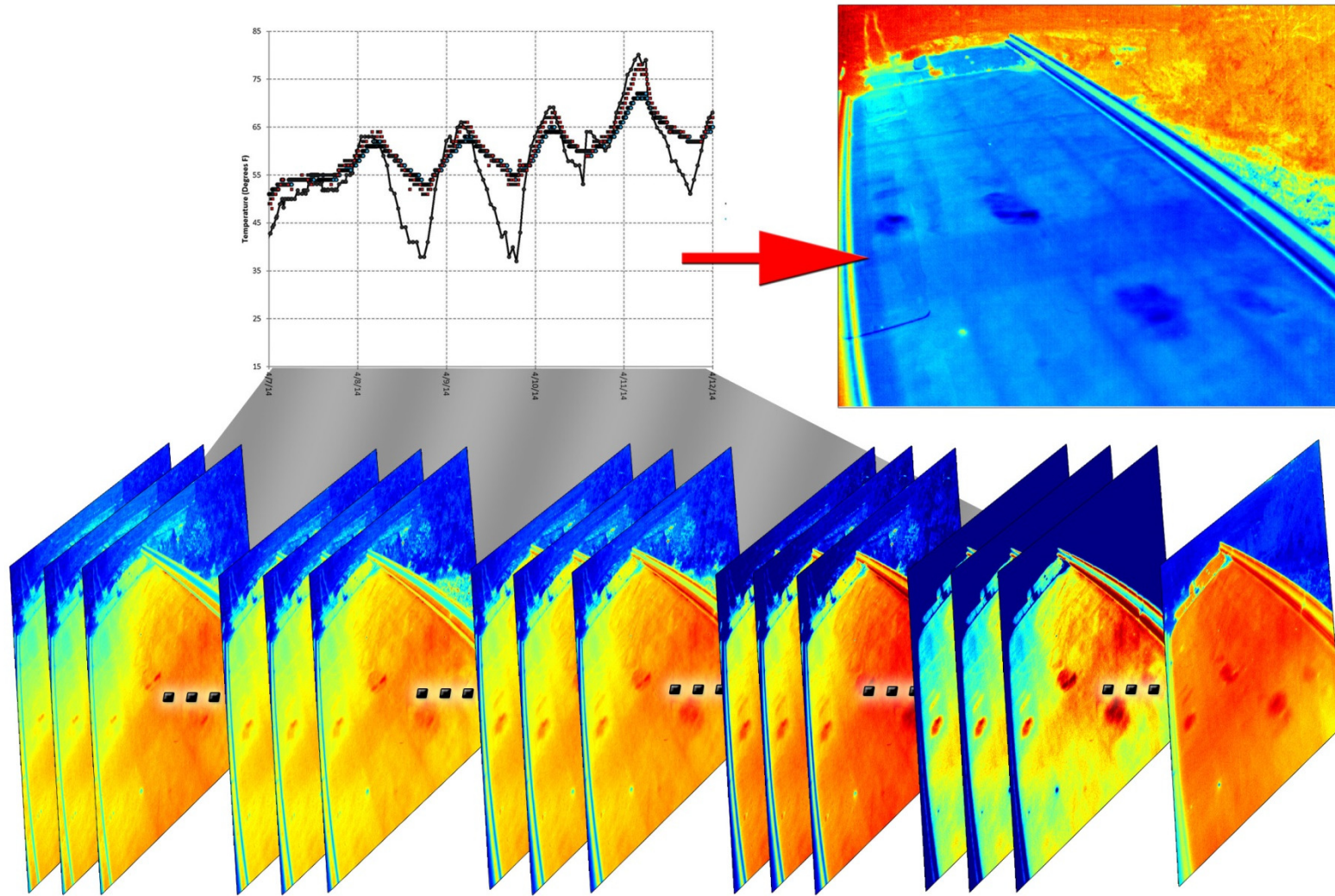


*Innovative Infrared Nondestructive Evaluation
Technologies*

New Technologies

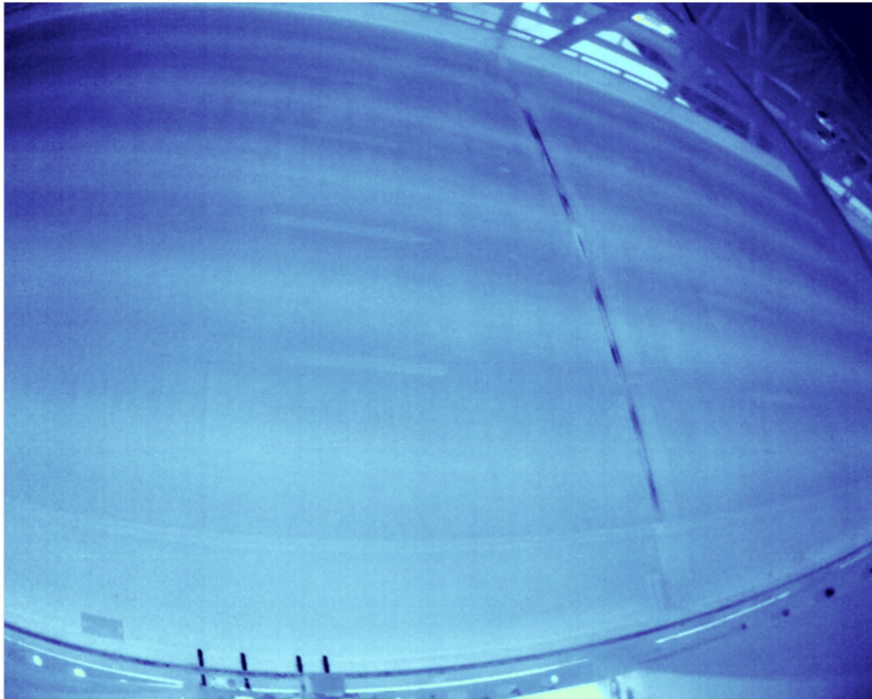
- Not conventional infrared (IR)
- *Features*
 - Measurements not previously possible
 - Measurements for concrete / steel structures
 - Improved image quality
 - Easy to apply
- *Extending IR*
 - Unique instrumentation
 - Advanced processing

Unique Instrumentation: Multiple Images

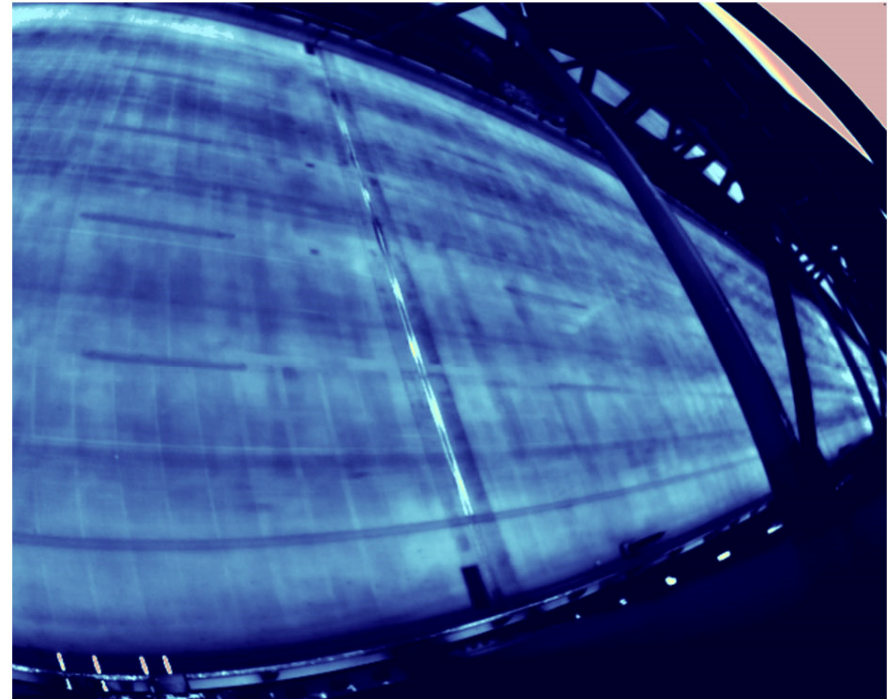


Advanced Processing

Conventional IR



ThermalStare Image

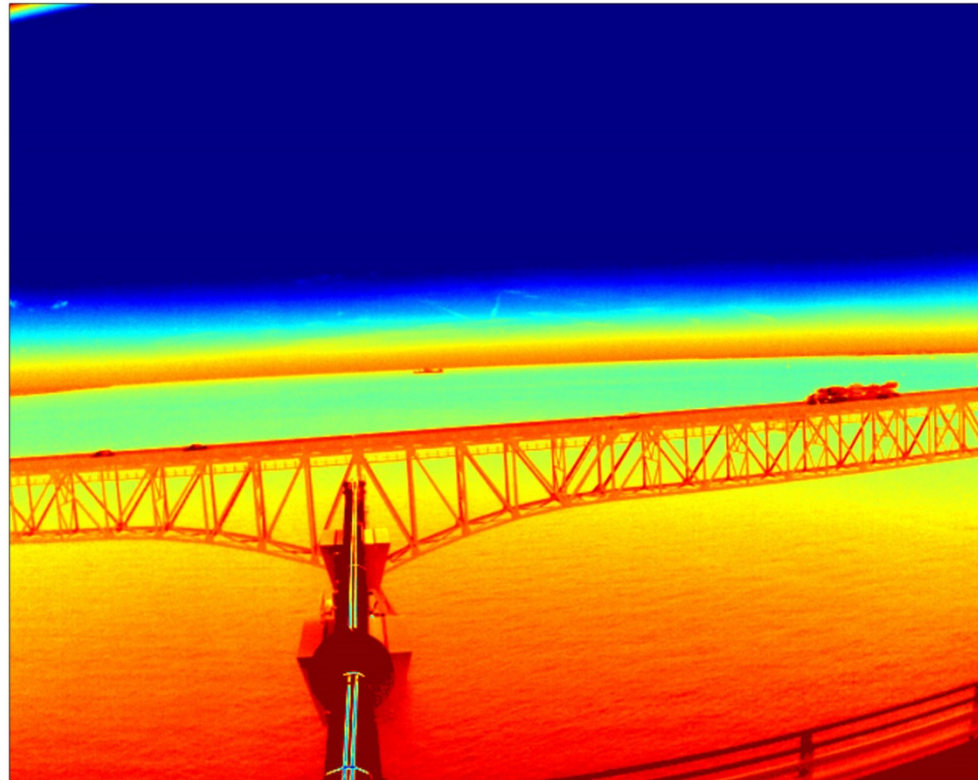


not an IR image

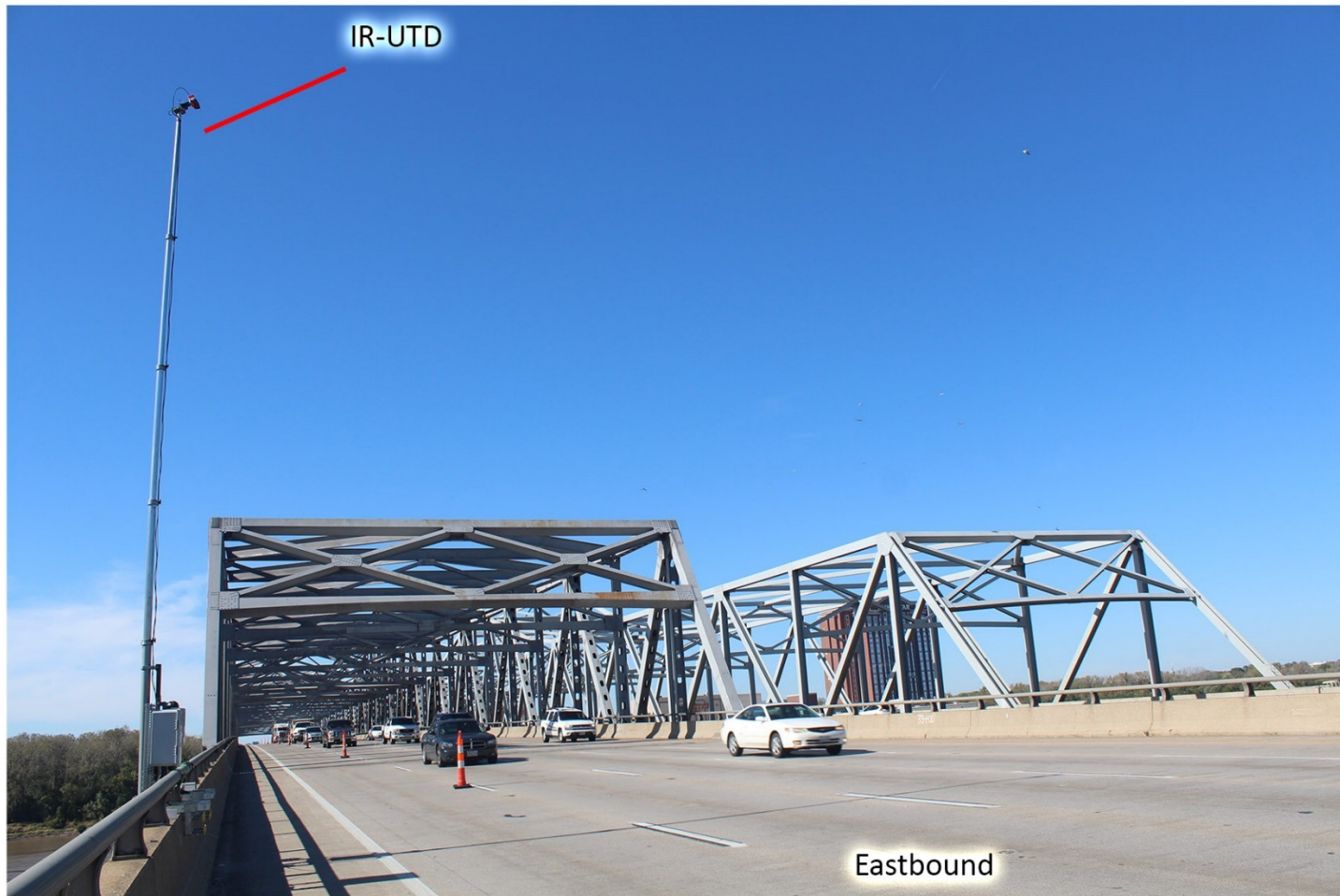
Infrared Ultra-Time Domain System IR-UTD

IR-UTD Applications

- Bridge decks
- Bridge soffits
- Substructure elements
- Large concrete structures
- Buildings
- Other applications

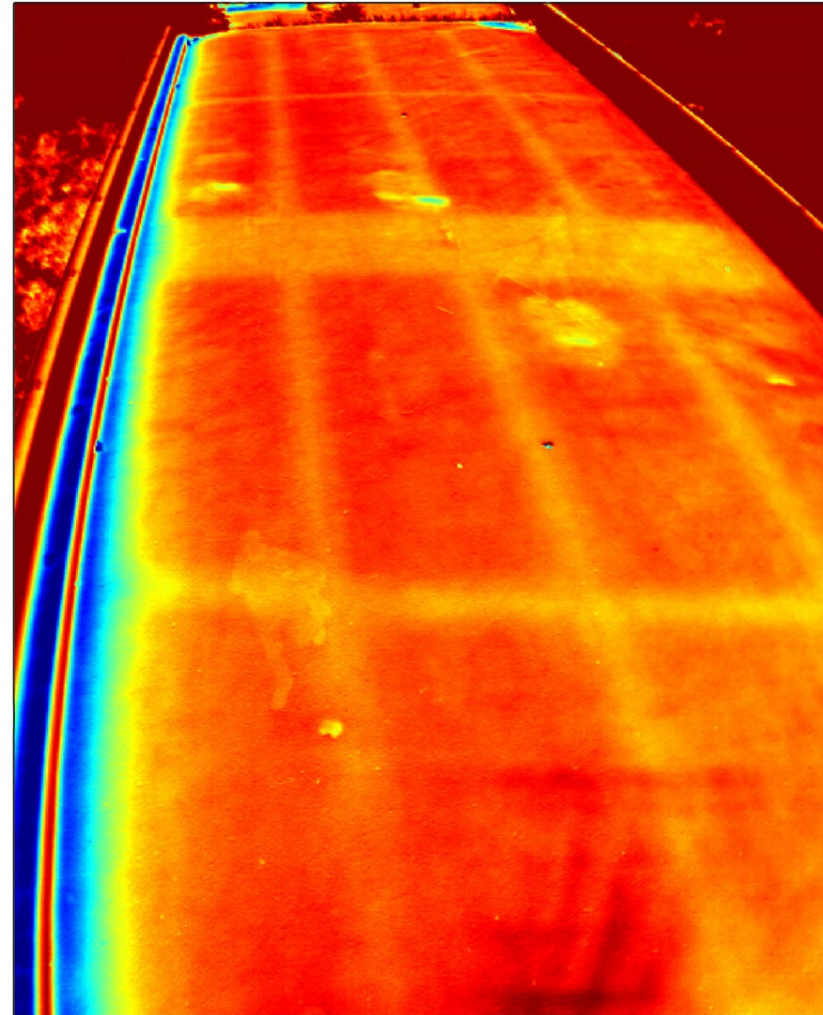
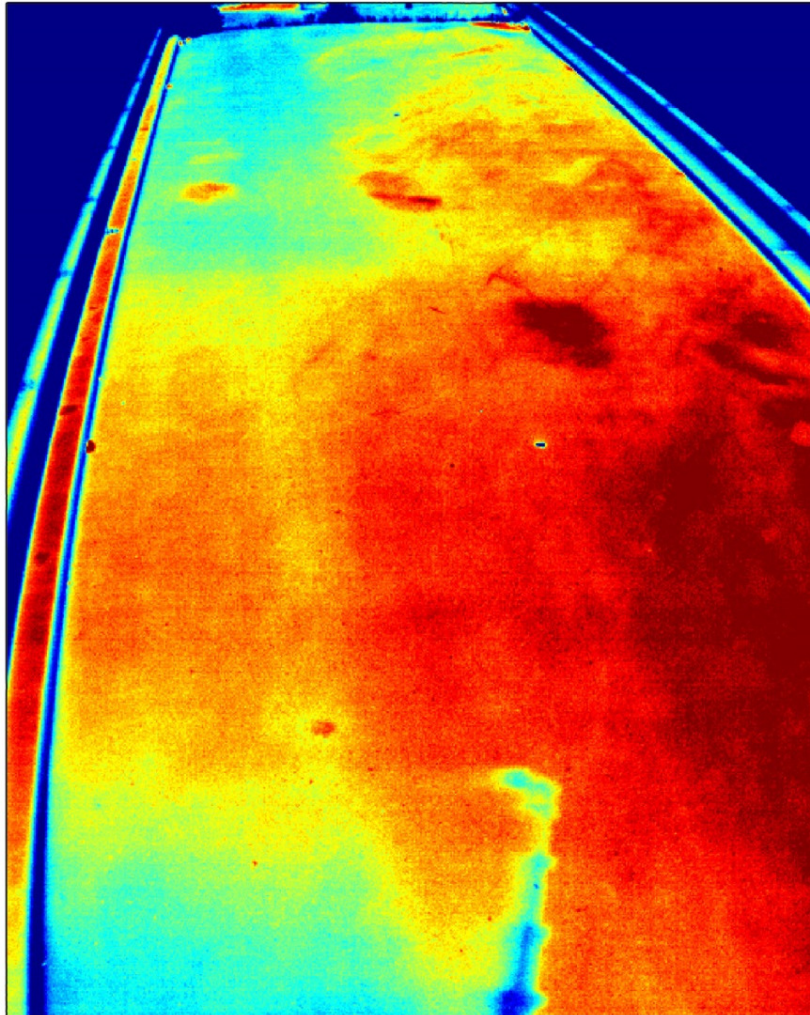


IR-UTD Concept



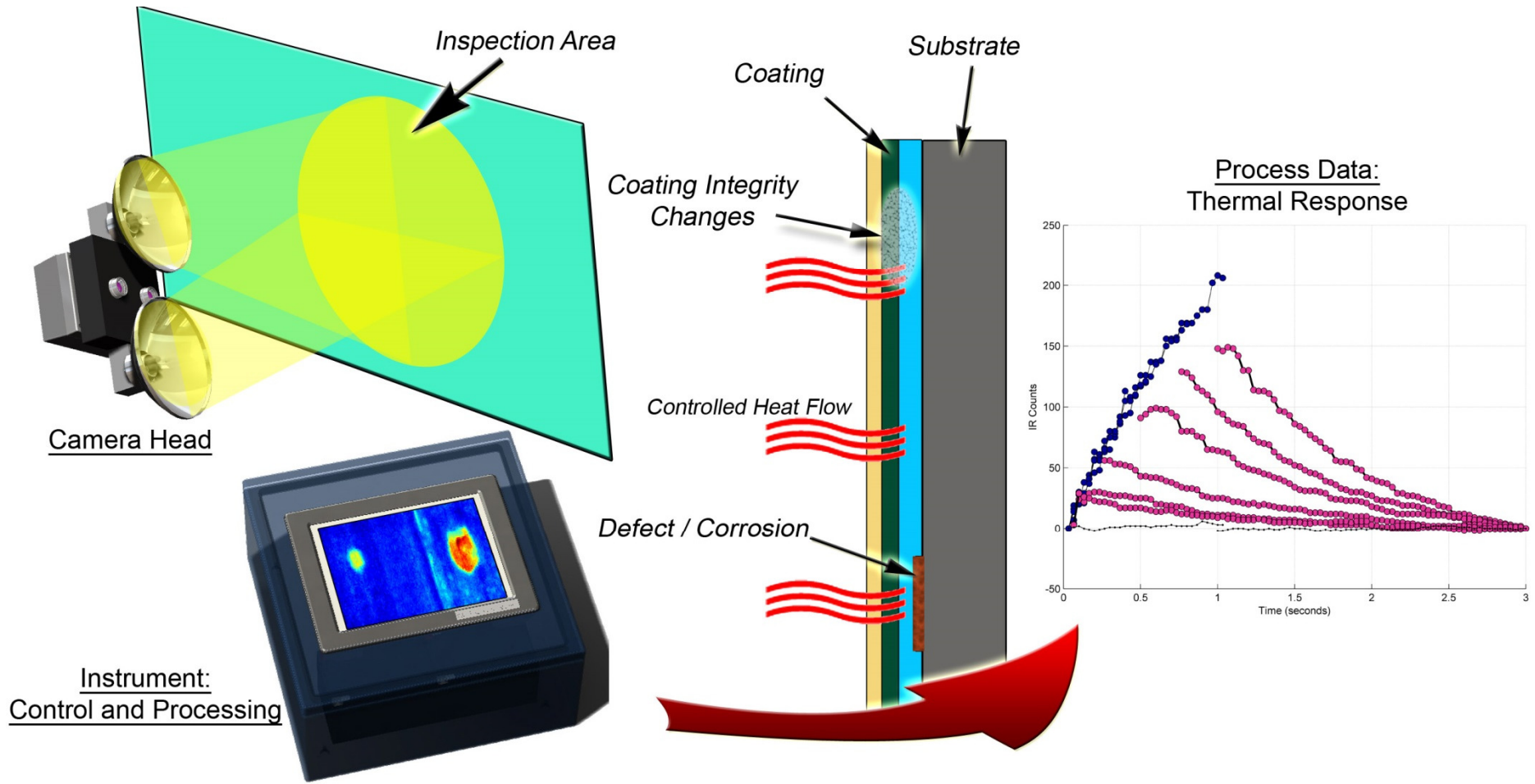
St. Louis, MO

IR-UTD Advanced Processing



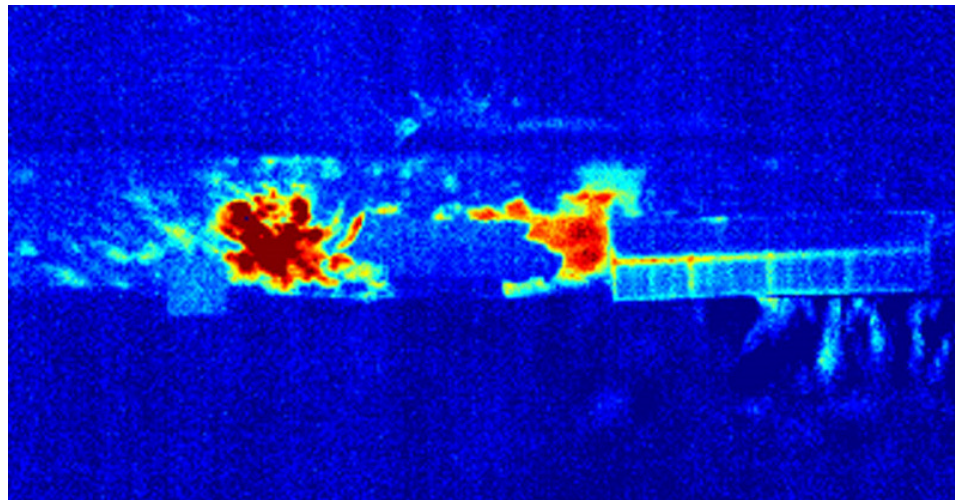
Infrared Coating Inspection System IR-CIS

IR-CIS Concept



IR-CIS Applications

- Field coating inspection
- Maintenance / over-coating
- Fabrication shop QA/QC
- Other non-bridge applications

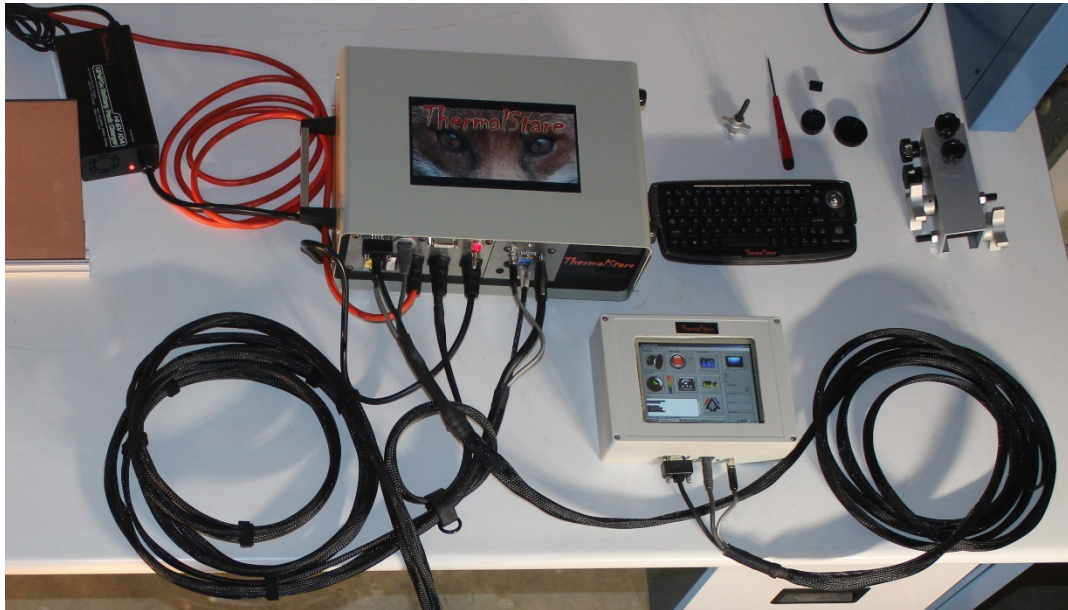


IR-CIS Unique Features

- Field-deployable flash thermography
 - Any lighting, immediate results
- *Only* tool for quantitative, repeatable, nondestructive measurements of coatings
- Commercial System



IR-CIS Instrument: V2



IR-CIS Instrument V3



Example Setup



Example Setup

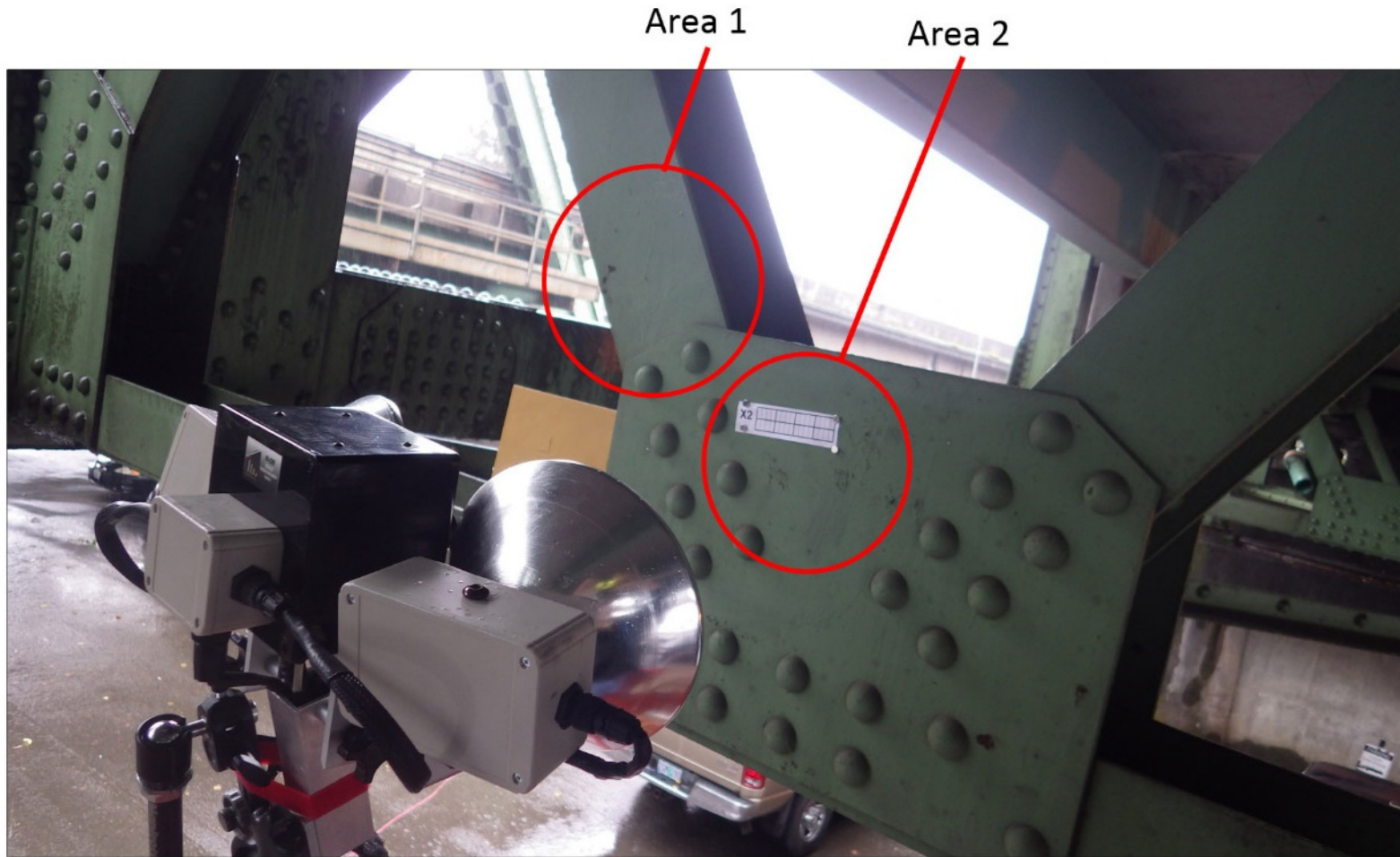
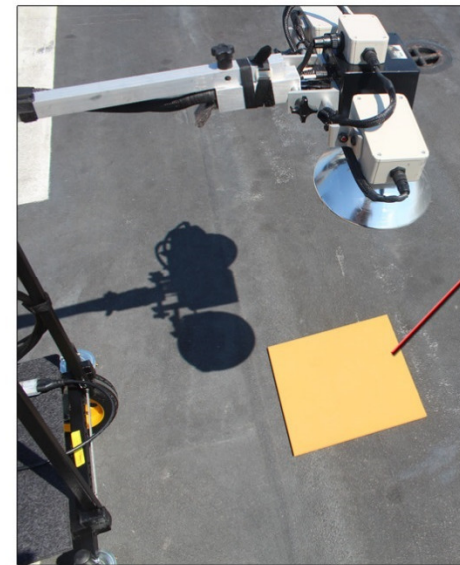
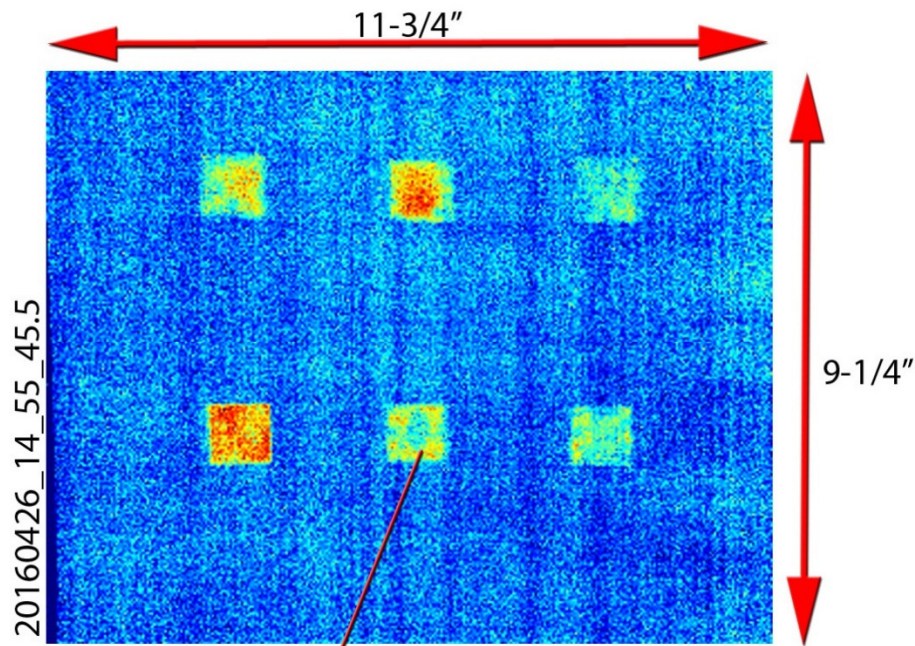


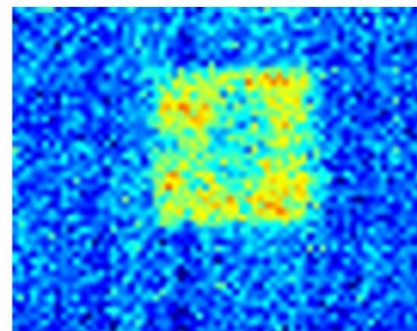
Image Details



12" x 12"
Plate

Distance = 29.5"

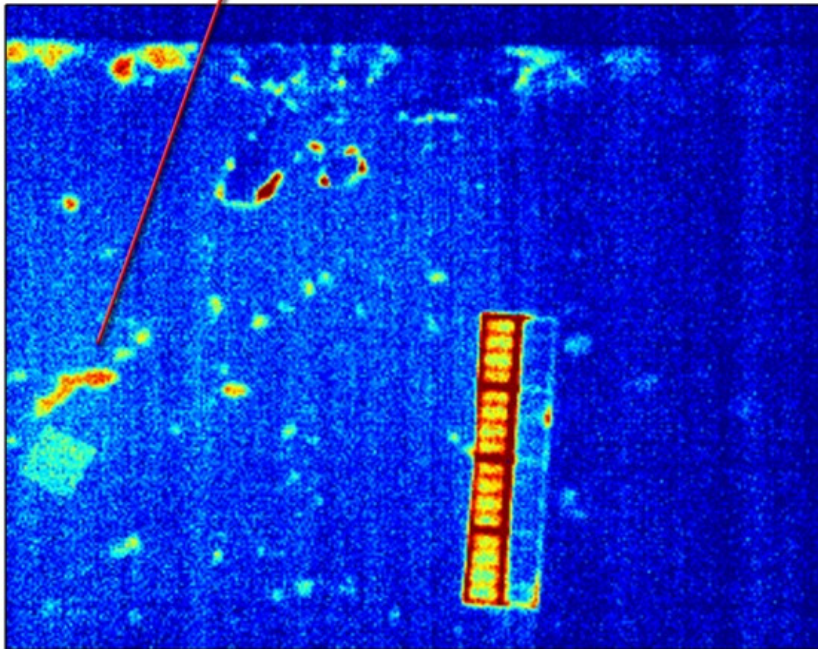
1" x 1"



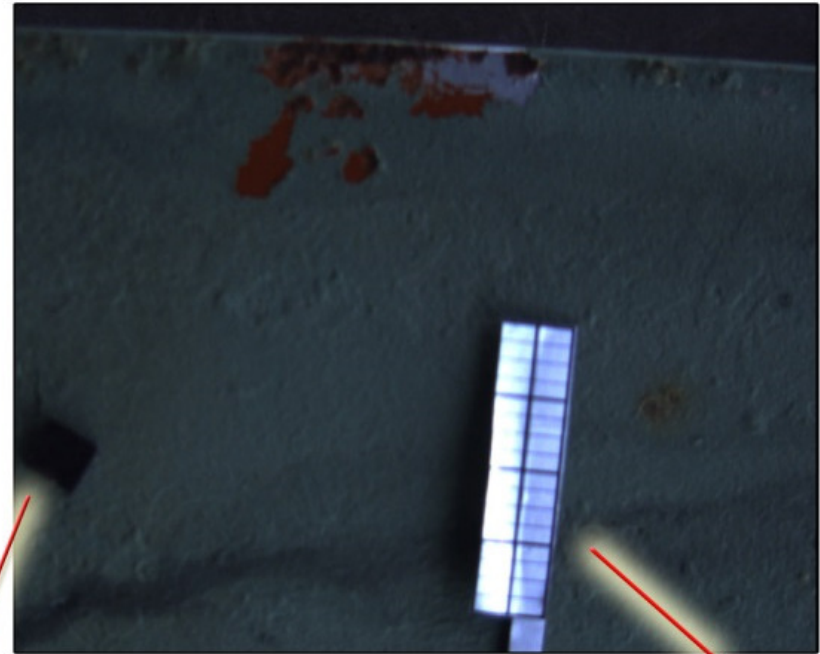
0.036" resolution

Example: Over-coating Defects

Defect of interest



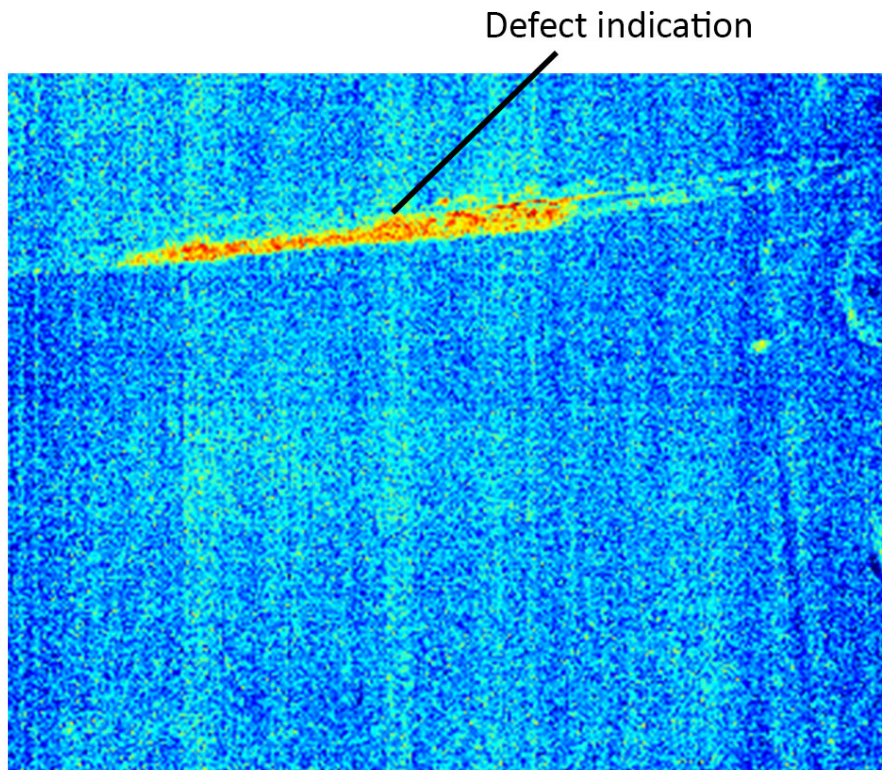
Data Set: 20140721_16_01_39.7



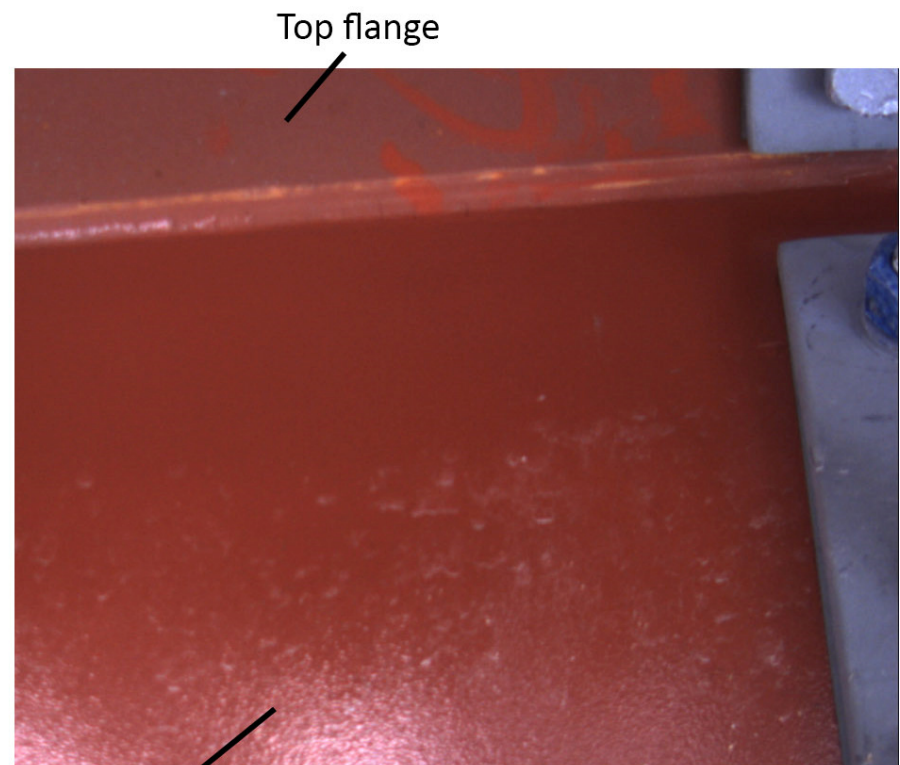
Marker

Marker

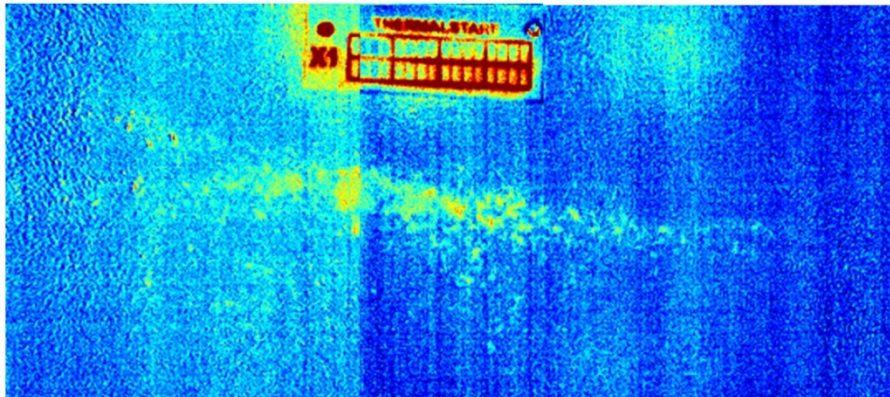
Example: Weld



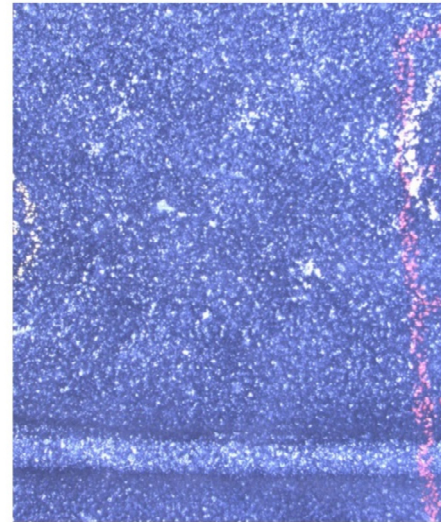
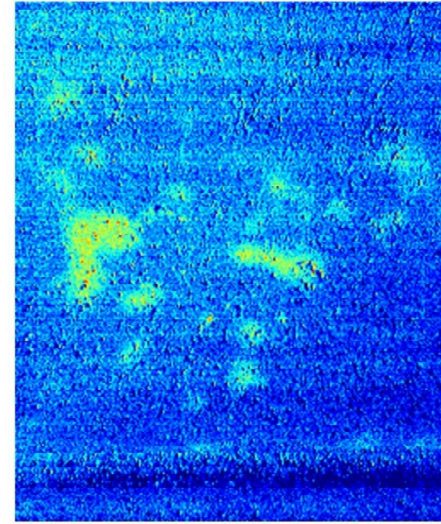
20170721_10_18_50.9



Example: Borders of Defect



IR-CIS : Military Coatings



Thank You

www.ThermalStare.com

FCI

Fuchs Consulting, Inc.

