

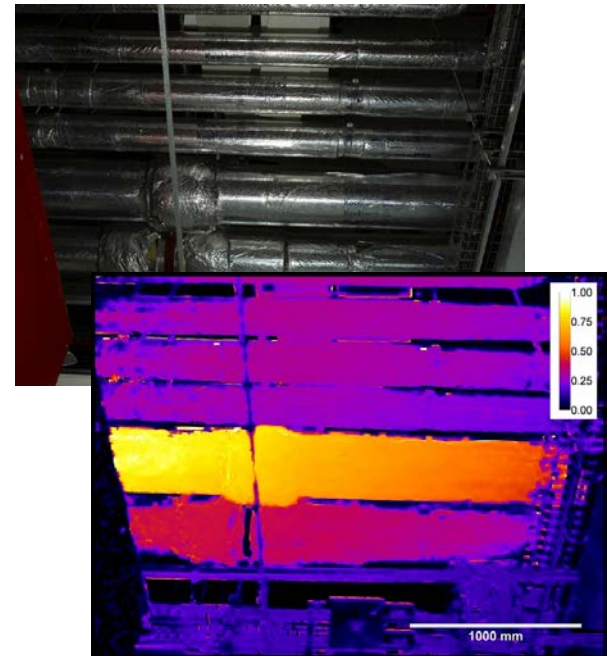


TECHNOLOGY
showcase

2016 Exhibition and Conference

Digital Image Correlation

- Need:
 - Significantly reduce process vessel inspection times in order to improve overall production efficiency and reduce the risk to personnel from entering process vessels.
- Solution: DIC
 - The key concept is comparing two datasets made of before and after images,
 - not necessarily light
 - Using application specific alignment
 - Objective reproducible measurements
 - Highlighting run-on-run differences
- Successful used in Rail Tunnels
 - For the same reasons as above
- Nuclear, Power networks



Digital Image Correlation



Key Attributes

- Rapid data capture compared to conventional inspection methods
- Direct run-to-run inspection comparison highlighting differences to 1mm
- Full record of the structure via archived time history of appearance and shape
- More efficient use of experienced inspectors
- Reduction in cost and improvement in workforce safety, particularly for hazardous or difficult-to-access environments
- Richer, more detailed 3D spatial data

Digital Image Correlation Tunnel Example

Run1



Run2



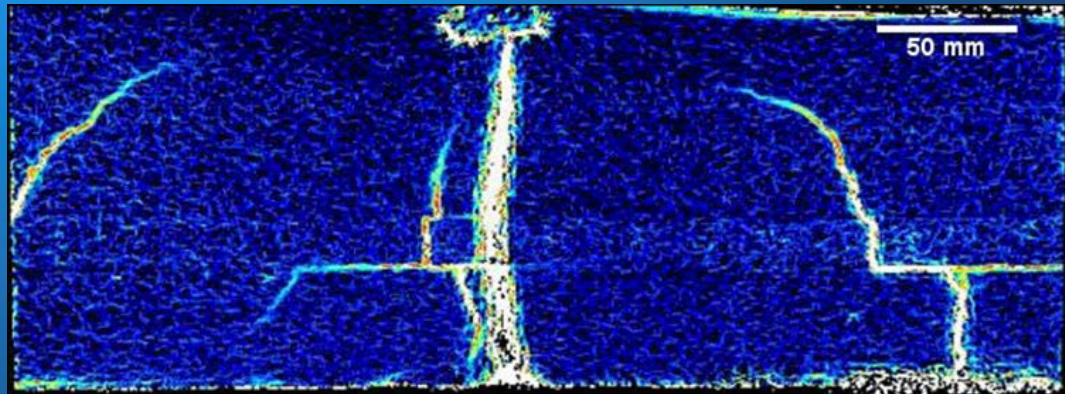
Digital Image Correlation



- High resolution imagery;
- Combined shape and appearance measurements;
- Archival storage of high quality data;
- Automated data generation;
- Automated screening capability;
- Automated defect report generation.
- Objective not subjective reproducible measurements

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Crack opening and identification