

NDT in Canada Conference 2019

Inform-Engage-Advance

**Edmonton, Canada
18-20 June 2019**

ISBN: 978-1-5108-9277-4

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

License to NDT.net
Copyright© (2019) by the authors
All rights reserved.

Printed with permission by Curran Associates, Inc. (2019)

For permission requests, please contact NDT.net
at the address below.

NDT.net
Rheinalstr 3
53498 Bad Breisig
Germany

Phone: + 49 2633 4756670
Fax: + 49 3212-1030513

info@ndt.net

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

Artificial Intelligence Advanced NDT Data Analysis	1
<i>N. Harrap</i>	
Factors Affecting Spatial Resolution in Pulsed Eddy Current Inspection of Pipe	6
<i>Y. Fu, P. Underhill, T. Krause</i>	
Increasing Uptime and Plant Reliability by Deploying Asset Monitoring Solutions.....	18
<i>E. Gasperin</i>	
Worldwide Patented PA UT - Automated UT Industrial Applications.....	35
<i>C. Chollet</i>	
Machine Learning in Pipeline Inspection: Applications of Supervised Learning in Non-destructive Evaluation	52
<i>R. Herrera, P. Christensen, A. Elvers</i>	
Pulsed Eddy Current Response to General Corrosion in Concrete Rebar	58
<i>I. Eddy, P. Underhill, J. Morelli, T. Krause</i>	
Automatic Defect Detection for X-Ray Inspection: Identifying Defects with Deep Convolutional Network	71
<i>R. Tokime, X. Maldaque, L. Perron</i>	
Detection of Corrosion Under Insulation (Cui) Using Advanced Pipe Inspection Technology	79
<i>A. Vajpayee</i>	
High-Resolution, Non-Destructive Imaging with Accelerator-Based Neutron Sources.....	96
<i>K. Rittenhouse</i>	
Sensitivity Response of Total Focusing Method (TFM) for Weld Inspection Versus Other Techniques	103
<i>J. Carignan, M.-P. Despaux, F. Lachance, P. Rioux</i>	
A Review of the Benefits of PWI/TFM for Weld Inspection	111
<i>A. Caulder</i>	
Development of Radiographic Image Processing Algorithms at CNL	126
<i>K. Stoev</i>	
New ASME FMC Rules.....	136
<i>P. Hayes</i>	
Qualification and Process Control of Computed Radiography Systems.....	140
<i>M. Khan, M. Brothers, T. Gillis</i>	
Non-destructive and Non-contact Stress-Strain Characterization of Aerospace Alloys and Coatings using Laser Infrared Photo-Thermo-Mechanical Radiometry (PTMR).....	155
<i>A. Mandelis, H. Huan, A. Melnikov</i>	
TOFD Inspection of ERW in Thin Walled Piping - A Specialised Inspection Technique	165
<i>T. Poudrier</i>	
Remote Magnetic Sensing of Plastically Deformed Steel.....	180
<i>A. Saleem, P. Underhill, T. Krause</i>	
Advanced Ultrasonic Alternatives for Inspecting Coarse Grained Stainless Steel Components	195
<i>M. Wechsler</i>	
Structural Health Assessment in Heavy Industries.....	206
<i>A. Hatch</i>	
Comparison Between Two Methods of Non-Destructive Evaluation of Standing Trees.....	213
<i>S. Fathi, F. Divos, L. Bejo</i>	
Evaluation of the Dead Zones in the Welded Joints Hydraulic Turbine Runners	221
<i>M. Bajgoli</i>	
A Comparative Study Between Different Guided Waves.....	231
<i>Z. Gokce</i>	
Non-Destructive Evaluation of Impact Damage in Carbon Fibre Reinforced Polymer Using Infrared Thermography, Shearography and Ultrasonic Testing	247
<i>A. Far, M. Viens, L.-D. Theroux, O. Ares</i>	
How Latest Sensor and Communication Technologies Help to Improve UCI (Ultrasonic Contact Impedance) Hardness Testing Method	254
<i>T. Ott</i>	
Investigation on the Suitability of Laser-excited Thermography to Detect Cavities in Metallic Components.....	265
<i>M. Mund, E. Stammen, K. Dilger</i>	

Detection of Second Layer Cracks in Riveted Aluminum Structure.....	273
<i>P. Underhill, M. Aquilina, T. Krause</i>	
Suitability of Quality Management Methods for Adhesive Bonding Processes.....	283
<i>M. Mund, E. Stammen, K. Dilger</i>	
Author Index	