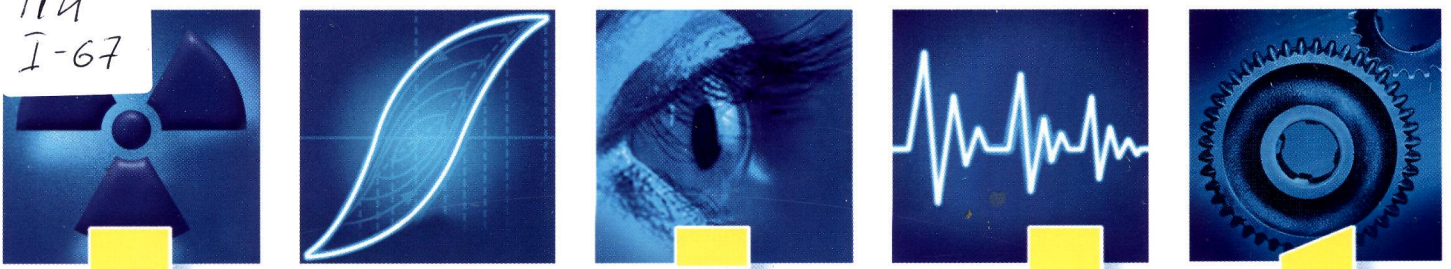


114  
I-67



# Insight

Non-Destructive Testing and Condition Monitoring

May 2013





Published by:  
The British Institute of Non-Destructive Testing  
Newton Building, St George's Avenue  
Northampton NN2 6JB, UK  
Tel: +44 (0)1604 89 3811;  
Fax: +44 (0)1604 89 3861;  
E-mail: info@bindt.org; Website: www.bindt.org



**Volume 55 Number 5**

**May 2013**

Comment, *by Dr L Lobo* ..... 226

NEWSDESK: BINDT proposes 'Level 3 Pool'; Students enjoy ECITB engineering experience course; New camera system creates high-resolution 3D images from up to a kilometre away ..... 228

**FEATURE: COMPUTED TOMOGRAPHY**

Iterative reconstruction algorithm for half-cover dual helical cone-beam computed tomography,  
*by Yunsong Zhao, Xiaobing Zou and Wei Yu* ..... 232

An accelerated RAMLA reconstruction algorithm for X-ray cone-beam CT,  
*by Xing Zhao, Jing-jing Hu, Tao Yang and Feng Wang* ..... 237

3D image reconstruction algorithm for truncated projection data in a half-covered scanning configuration,  
*by Xianchao Wang, Hongkui Liu, Bin Yan, Lei Li and Guoen Hu* ..... 243

**FEATURE: OPTICAL AND THERMAL METHODS**

Modal frequency *versus* shearography in detecting and locating voids/delaminations in sandwich composites,  
*by J Gryzagoridis, G Oliver and D Findeis* ..... 249

Development of high-precision ultrasonic microscopy measurement system and measurement of the surface wave velocities of (100) silicon wafer,  
*by Song Guorong, Lu Yan, Gao Zhongyang, Liu Yanli, Guo Yinghui, He Cunfu and Wu Bin* ..... 253

Quantitative study of water ingress in pulsed thermography,  
*by Dapeng Chen, Zhi Zeng, Cunlin Zhang, Xueyuan Jin and Zheng Zhang* ..... 257

**REGULAR FEATURES**

International Diary ..... 265

NDT Info ..... 269

Product Showcase ..... 277

Associate Members/Index to Advertisers ..... 280



**COVER**

This month's front cover depicts an aerospace phased array inspection of the upper wing skin, between the trailing edge and the forward fastener row on the rear and false spar, using the Sonatest Veo and Radius Wheelprobe. The Radius Wheelprobe enables fast encoded scanning of large areas.

This inspection identifies areas of corrosion that occur at the edge of the wing top skin and around the rear spar fasteners, which then reduces the metal thickness from the lower surface. Following the manufacturer's procedure, the inspector identifies the inspection zone and constructs lines for scan paths. Variations in signal amplitude and thickness readings will confirm signs of corrosion or material loss.

**Sonatest**  
[www.sonatest.com](http://www.sonatest.com)

