



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

European issues of *Insight* are published by The British Institute of Non-Destructive Testing with the support of The European Federation for Non-Destructive Testing and the cooperation of individual European NDT Societies

**EF** European Federation for Non-Destructive Testing  
**NDT**

EFNDT SECRETARIAT  
 BINDT  
 Newton Building, St George's Avenue  
 Northampton NN2 6JB, UK  
 Tel: +44 (0)1604 89 3811  
 Fax: +44 (0)1604 89 3861  
 E-mail: efndt@bindt.org  
 Website: www.efndt.org

**COVER**

This month's front cover shows a quality casting being scanned with a 300 kV microfocus X-ray tube installed in the phoenix vltomelx m and L CT system from GE Measurement & Control. This offers a very small focal spot to provide a much sharper X-ray image, which greatly improves the quality of the 3D volume reconstructed from a series of acquired 2D projection images. This is a good demonstration of the way that microfocus CT offers significantly higher CT quality than conventional macrofocus X-ray tubes.

GE's vltomelx m CT system is suitable for 600 x 600 mm samples with a field of view up to 300 mm diameter and 600 mm in height and up to 50 kg in weight. It features granite-based manipulation and a temperature-controlled cabinet for extremely high measurement accuracy and repeatability and it is equipped with phoenix datoslx 2.0 CT software, which allows fully automated data acquisition, volume processing and display, using the software's click & measure/CT functionality. 3D reconstruction results are available within minutes with the system's velolCT.

**GE Measurement & Control**  
 www.ge-mcs.com

**Volume 55 Number 3**

**March 2013**

Comment, by Professor Gui-Yun Tian ..... 114

NEWSDESK: Employers lead skills development in manufacturing for nuclear; New award for Incorporated Engineers; EPSRC announces funding for structural engineering projects; UK nuclear education, skills and training directory ..... 116

Institute Awards ..... 121

**SPECIAL FEATURE: ELECTROMAGNETICS**

Applying micromagnetic methods for the non-destructive metallurgical characterisation of AISI 4140 steel materials, by C O D Martins, A Altenhofen, T G R Clarke and A Reguly ..... 123

Broken wire detection in coated steel belts using the magnetic flux leakage method, by Hua-Ming Lei and Gui-Yun Tian ..... 126

Prediction of interlamellar pearlite spacing of tyre bead wires after patenting using electromagnetic techniques, by S Balamurugan, T Bhattacharyya, D Gudhae, L Zhou, C L Davis, A J Peyton and S Chandra ..... 132

Real-time pre-processing of the pulsed eddy current signal from continuous casting slabs, by Xuanbing Qiu, Chao Wei, Xiaochao Cui and Jilin Wei ..... 136

**MINI-FEATURE: CONDITION MONITORING**

Fault diagnosis of rolling element bearings based on complexity measure and v support vector machine, by Guofeng Wang and Chang Liu ..... 142

Study on data fusion of multi-dimensional sensors for health monitoring of rolling bearings, by Zhixiong Li and Xinping Yan ..... 147

**REGULAR FEATURES**

International Diary ..... 153

NDT Info ..... 156

Product Showcase ..... 165

Associate Members/Index to Advertisers ..... 168

Федеральное государственное бюджетное учреждение науки  
 Центральная научная библиотека  
 Уральского отделения  
 Российской академии наук (ЦНБ УрС-РАН)