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ICBM12 session 1: Stress measurements using BN

Modelling the Effect of Stress on Magnetic Barkhausen Noise

Thomas W. Krause¹, Arash A. Samimi^{1,2}, Antohny K. Krause, P. Ross Underhill¹, Lynann Clapham²

¹ Royal Military College of Canada

² Queen's University, Canada

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Ernur Pihava, Ernur Kazancı, Bekir Han Biçim

Delphi Technical Center, Turkey

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Jiri Malec¹, Dominik Blazicek², Filip Cervinka²

¹ PCS Ltd, Czech Republic

² Technical University of Brno, Czech Republic

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How to go from stress non-destructive testing to measurement using Barkhausen Noise?

Valeriy Vengrinovich¹, Dmitry Vintov¹, Andrew Prudnikov², Pavel Podugolnikov³, Vladimir Ryabtsev³

¹ Belarus National Academy of Sciences

² Russian-Belarus University

³ Belarus National Technical University

Presentation

ICBM12 session 2: Application for measurements of hardening depth

Non-destructive testing of surface nitrided hardening characteristics of three different steel grades

Jonas Holmberg¹, Per Lundin², Jari Olavissou³, Solmaz Sevim⁴

¹ Swerea IVF, Sweden

² Stresstech Oy, Finland

³ Volvo Powertrain, Sweden

⁴ Bodycote

Presentation

Penetration depth investigation of Barkhausen noise signal for case-hardened components

Robert Tomkowski¹, Stefan Jonsson¹, Per Lundin², Peter Nerman³

¹ KTH Royal Institute of Technology, Sweden

² Stresstech Oy, Finland

³ SCANIA CV AB, Sweden

Presentation

Case depth prediction of nitrided components

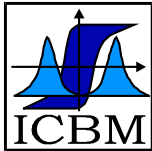
Aki Sorsa¹, Suvi Santa-aho², Chris Aylott³, Brian Shaw³, Minnamari Vippola², Kauko Leiviskä¹

¹ University of Oulu, Finland

² Tampere University of Technology, Finland

³ Newcastle University, UK

Presentation



Preliminary Study: Barkhausen Noise Evaluation on the Hardening Depth of an Induction-hardened Carbon Steel **Presentation**

Pui Lam Tam, Peter Hammersberg, Gert Persson
Chalmers University of Technology, Sweden

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Aitor Lasaosa, Kizkitza Gurruchaga, Fernando Arizti, Ane Martínez-de-Guerenu
University of Navarra, Spain

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Barkhausen noise Potcore sensor simulatios with Comsol **Presentation**

Arttu Laitinen^{1,2}, Suvi Santa-aho², Aki Sorsa³, Lasse Suominen¹, Minnamari Vippola²

¹ Stresstech Oy, Finland

² Tampere University of Technology, Finland

³ University of Oulu, Finland

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Ulana Cikalova, Susanne Hillmann, Hendrik Funke, David Brosius, Claudius Birkefeld
Fraunhofer Institute for Ceramic Technologies and Systems IKTS, Germany

Prediction or preformed Martensite (white layer) by non-destructive test "Barkhausen noise" for quality evaluation in shaft **Presentation**

Jorge Obdulio Ríos Nava¹, Cecilio Cannavaccioulo Díaz²

¹ Sistemas Automotrices de México S.A. de C.V.

² Universidad Autónoma de Nuevo León, Mexico

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Miroslav Neslušan, Anna Mičietová, Mária Čilliková
University of Žilina, Slovakia

Using the Sum of Effective Residual Stress (SERS) concept for determination of surface damage level and for experimental determination of BN penetration depth by different frequencies for bearing steel type 100Cr6 **Presentation**

Jiri Malec¹, Filip Cervinka², Dominik Blazicek²

¹ PCS Ltd, Czech Republic

² Technical University of Brno, Czech Republic

Micromagnetic Testing at Fraunhofer IZFP, Highlights and Experiences of more than 3 Decades of Research **Presentation**

B. Wolter, K. Szielasko, R. Tschuncky, C. Conrad
Fraunhofer Institute for Nondestructive Testing IZFP, Germany

ICBM12 session 5: New application and new parameters

Monitoring the directional variations of magnetic Barkhausen emission in the cold-rolled ferritic steel **Presentation**

C. Hakan Gur¹, F. Umit Akcaoglu²

¹ Middle East Technical University, Turkey

² Turkish Aerospace Industry, Turkey



**12th International Conference on Barkhausen Noise and Micromagnetic Testing
on September 24-26, 2017,
at Fraunhofer Institute for Ceramic Technologies and Systems IKTS
in Dresden, Germany**

Barkhausen noise response of fatigue tested duplex stainless steel

Presentation

Mari Lindgren¹, Suvi Santa-aho², Timo Björk³, Minnamari Vippola²

¹ Outotec Research Center, Finland

² Tampere University of Technology, Finland

³ Lappeenranta University of Technology, Finland

**Investigation of The Effect of Different Machining Parameters on Surface Properties by
Magnetic Barkhausen Noise**

Presentation

Remzi Gömek¹, Kadir Cihan Tekin¹, Ernur Pihava², Ernur Kazanci², Uğur Malayoğlu¹

¹ Dokuz Eylül University, Turkey

² Delphi Diesel Automotive

Investigation of surface integrity of deep hole drilling of a thick-walled steel tube

Ernur Pihava, Ernur Kazanci, Bora İyiyarlar

Delphi Technical Center Izmir, Turkey

Closing

Discussion

Jürgen Schreiber