

The Measurement of Residual Stress Using Laboratory Based X-Ray Diffraction Instruments, the Positives, the Pitfalls and a New Round Robin. judithshackleton@compuserve.com

Meeting Programme

09:50 - 10:20 Registration, Coffee and Exhibition

10:20 - 10:40 Introduction to the National Physical Laboratory and Best Practice in Measurement

Tony Fry, NPL, Teddington, UK.

10:40 - 11:10 How the X-ray Diffraction Based Method Works and Some Crystallography

Judith Shackleton, Rolls-Royce Civil Large Engines, Derby, UK. (Retired).

11:10 - 11:40 Elastic Constants; Their Significance in Residual Stress Measurement and Their Experimental Determination

Dr Joe Kelleher, ISIS Pulsed Neutron & Muon Source, Harwell Campus, Didcot, UK.

11:40 - 12:10 Measurement of Awkward Components

Prof. John Bouchard, Stress Space, Harwell Campus, Didcot, UK.

12:10 - 12:40 Depth profiling of Residual Stresses using X-Ray Diffraction – A Practical Review

Dr Jeferson Araujo De Oliveira, Engineering & Innovation, The Open University, Walton Hall, Milton Keynes, UK.

12:40 - 13:45 unch, Exhibition and Demonstrations

13:45 - 15:00 Manufactures Forum (Alphabetical Order)

- Bruker
- Proto
- Pulstec Industrial Co. Ltd. (Senteso Smart Peening Solutions on Pulstec's behalf)
- Stress-Space
- Stresstech
- Quantum Design

15:00 - 15:20 Tea, Exhibition and Demonstrations

15:20 - 15:50 Comparison between Surface and Near-Surface Residual Stress Measurements.

Dr Ioannis Violatos, Materials Modelling Theme Lead, Advanced Forming Research Centre, Strathclyde, UK.

15:50 – 16:20 Laboratory XRD Determination of Residual Stress of EASI-STRESS Benchmarks

Prof. Matthew Roy, Department of Engineering, University of Manchester, UK.

16:20 – 17:00 Setting Up a New Round Robin

Judith Shackleton, Rolls-Royce Civil Large Engines, Derby, UK. (Retired)

17:00 Close of Meeting