

- 11:00 S125 **MICROSCALE RESIDUAL STRESS MEASUREMENT IN STEEL USING FOCUSED ION BEAM SLOTTING AND DIGITAL IMAGE CORRELATION**
N. Daynes, G. Horne, P.J. Heard, D.Z.L. Hodgson, A. Shterenlikht, University of Bristol, Bristol, UK
- 11:20 S35 **CHARACTERIZATION OF LONGITUDINAL RESIDUAL STRESSES IN FRICTION STIR WELDS USING THE CUT-COMPLIANCE TECHNIQUE**
A.P. Reynolds, C. Canaday, University of South Carolina, Columbia, SC
- 11:40 S69 **RESIDUAL STRESS MEASUREMENTS IN STEEL BEAMS USING THE INCREMENTAL SLITTING TECHNIQUE**
D.Z.L. Hodgson, D.J. Smith, A. Shterenlikht, University of Bristol, Bristol, UK
M.B. Prime, Los Alamos National Laboratory, Los Alamos, NM

ICRS-8 MATERIALS ENGINEERING I

Thursday a.m. BLANCA PEAK

Chairs: **C. Murray**, IBM – T.J. Watson Research Center, Yorktown Heights, NY
T. Gnaupel-Herold, NIST Center for Neutron Research, Gaithersburg, MD

- 8:30 S22 **INVITED—DIFFRACTION ANALYSIS OF STRESS GRADIENTS IN TIN THIN FILMS: AN EXPLANATION FOR THE OCCURRENCE OF WHISKER FORMATION?**
M. Sobiech, U. Welzel, E.J. Mittemeijer, Max Planck Institute for Metals Research, Stuttgart, Germany
W. Hügél, A. Seekamp, Robert-Bosch GmbH, Reutlingen, Germany
- 9:00 S15 **MICRO STRESS ACCUMULATION IN MULTIPHASE SUPERALLOYS**
J. Repper, M. Hofmann, W. Petry, C. Kremaszky, E. Werner, TU München, Garching, Germany
- 9:20 S27 **RESIDUAL STRESSES AND LOAD PARTITIONING IN NOVEL METAL/CERAMIC COMPOSITES EXHIBITING LAMELLAR MICROSTRUCTURES**
S. Roy, A. Wanner, Universität Karlsruhe (TH), Karlsruhe, Germany
J. Gibeimer, Hahn Meitner Institute Berlin, Berlin, Germany
- 9:40 S31 **SIZE EFFECT IN THE PLASTICITY OF MULTISCALE NANOFILAMENTARY Cu/Nb COMPOSITE WIRES DURING IN-SITU TENSILE TESTS UNDER NEUTRON BEAM**
V. Vidal, L. Thilly, P.O. Renault, University of Poitiers, Futuroscope, France
U. Stühr, S. Van Petegem, H. Van Swygenhoven, Paul Scherrer Institute, Villigen, Switzerland
F. Lecouturier, LNCMP, Toulouse, France
- 10:00 BREAK
- 10:40 S213 **CHARACTERIZATION OF STRAINED SILICON ON INSULATOR (sSOI) SUBSTRATES USING HIGH-RESOLUTION X-RAY DIFFRACTION**
M. Wormington, Bede Scientific Inc., Centennial, CO
T. Lafford, P. Ryan, Bede plc, Durham, UK
- 11:00 S161 **HIGH PRESSURE DEFORMATION STUDY OF ZIRCONIUM**
S.C. Vogel, D.W. Brown, H. Reiche, T.A. Sisneros, H.M. Volz, J. Zhang, Y. Zhao, Los Alamos National Laboratory, Los Alamos, NM
N. Nishiyama, Y. Wang, APS – Argonne National Laboratory, Argonne, IL
- 11:20 S59 **IN-SITU X-RAY DIFFRACTION STUDY OF NANOCRYSTALLINE METALS**
S. Brandstetter, S. Van Petegem, J. Zimmermann, B. Schmitt, H. Van Swygenhoven, Paul Scherrer Institut, Villigen, Switzerland
- 11:40 S77 **NEUTRON DIFFRACTION STUDY OF INTERGRANULAR STRESS DEVELOPMENT IN AUSTENITIC STAINLESS STEEL WELD METAL**
S. Sharma, R. Haigh, L. Edwards, M.E. Fitzpatrick, The Open University, Milton Keynes, Bucks, UK
M. Turski, University of Manchester, Manchester, UK

ICRS-8 INDUSTRIAL APPLICATIONS: LAYERS AND COMPOSITES

Thursday a.m. MAROON PEAK

Chair: **M. Hill**, University of California, Davis, CA

- 8:50 S201 **INVITED—A STUDY OF RESIDUAL STRESSES IN VACUUM PLASMA SPRAYED TUNGSTEN COATINGS**
T.-S. Jun, S.Y. Zhang, G. Thomas, P. Grant, A. Korsunsky, University of Oxford, Oxford, England
- 9:20 S142 **RESIDUAL STRESS PROFILES IN ALUMINA-ZIRCONIA CERAMIC COMPOSITES FABRICATED BY TAPE CASTING**
J. Ruiz-Hervias, UPM, Madrid, Spain
A. Steuwer, T. Buslaps, ESRF, Grenoble, France
J. Gurauskis, C. Baudin, Instituto de Ceramica y Vidrio (CSIC), Madrid, Spain
- 9:40 S121 **NEUTRON DIFFRACTION STUDIES ON STRAIN EVALUATION OF REBAR IN REINFORCED CONCRETE**
H. Suzuki, Japan Atomic Energy Agency, Japan
M. Kanematsu, Tokyo University Of Science, Japan
K. Kusunoki, Yokohama National University, Japan