

MS-4. Metals, alloys and metal matrix composites

10 September, 16:45 - 18:45 / 11 September, 16:30 - 18:30

MS-4-P-1409

NANOPRECIPITATES OF PHOSPHORUS IN SUPERMARTENSITIC STAINLESS STEELS

Presenting author: **Rodrigues C. D.**

Authors: Rodrigues C. D., Jorge A. M., Tremiliosi F. G.

MS-4-P-1414

Revealing the precipitation of Al alloys subjected to high pressure torsion

Presenting author: **Li J. H.**

Authors: Li J. H., Renk O., Kutleša P., Zhang Z. L., Pippan R., Schumacher P.,

MS-4-P-1422

Structural and Morphological study of nanocrystalline Fe-50%Al alloy during ball milling of elemental powders

Presenting author: **Brajpuriya R. K.**

Authors: Brajpuriya R. K.

MS-4-P-1433

Revealing the precipitation in Al-Cu based alloys with Sc addition

Presenting author: **Li J. H.**

Authors: Li J. H., Albu M., Hofer F., Schumacher P.,

MS-4-P-1473

TEM Analysis of Carbides in As-cast High Chromium White Cast Iron Containing 0-10 wt.% Tungsten

Presenting author: **Imurai S.**

Authors: Imurai S., Chomsaeng N., Thanachayanont C., Pearce J. T., Tsuda K., Chairuang Sri T.

MS-4-P-1488

Advanced Electron Microscopy Characterization of spray formed and hot-extruded Al Alloy 7050 under different aging conditions

Presenting author: **Afonso C. R.**

Authors: Afonso C. R., Mazzer E. M., Bolfarini C., Kiminami C. S.

MS-4-P-1531

Particle reinforced Al-matrix composites

Presenting author: **Lábár J. L.**

Authors: Lábár J. L., Balázs K., Tóth A. L., Wéber F., Károly Z., Hargitai H., Dhar A.

MS-4-P-1556

Preparation of nitinol by reactive sintering

Presenting author: **Karlík M.**

Authors: Novák P., Michalcová A., Čapek J., Pokorný P., Karlík M., Haušild P., Kopeček J.

MS-4-P-1570

The broad area detection of Mg micro-core in the graphite of the Spheroidal Graphite Cast Iron

Presenting author: **Maeda H.**

Authors: Maeda H., Sugiyama A., Yasuda H.

MS-4-P-1675

Mechanical alloying of Fe–X (X=Al, Mo, Ni) powders studied by analytical electron microscopy

Presenting author: **Buršík J.**

Authors: Buršík J., Jirásková Y.

MS-4-P-1707

Al–Ni–Pt Alloy System: Isothermal Sections, Liquidus, Solidus and Reaction Scheme

Presenting author: **Kapush D.**

Authors: Kapush D., Korniyenko K., Grushko B., Meshi L., Petyukh V. M., Shemet V., Velikanova T. Y.

MS-4-P-1731

Scanning transmission electron microscopy study of Mg-RE solid solutions

Presenting author: **Bugnet M.**

Authors: Bugnet M., Kula A., Niewczas M., Botton G. A.

MS-4-P-1896

TEM Study of Inclusions on the Nucleation of Acicular Ferrite in Weld Metal

Presenting author: **Gallego J.**

Authors: Gallego J., de Araújo M. R., Ventrella V. A., Yamakami W. J., Tokimatsu R. C.

MS-4-P-1919

Structure and evolution mechanism of δ' - θ' - δ' composite precipitates in an Al-Li-Cu Alloy

Presenting author: **Duan S. Y.**

Authors: Duan S. Y., Chen J. H., Liu J. Z., Gao Z., Wu C. L.

MS-4-P-1949

TEM Observations of Nano-Scale MX Precipitates in Crept Super304H Austenitic Steel

Presenting author: **Xing H.**

Authors: Xing H., Ou P., Sun J.

MS-4-P-1984

The 3D imaging of 718Plus superalloy microstructure by FIB-SEM tomography

Presenting author: **Kruk A.**

Authors: Kruk A., Cempura G., Czyrska-Filemonowicz A.

MS-4-P-2008

The hardening precipitates in AlCuMg alloys

Presenting author: **Chen J. H.**

Authors: Chen J. H.

MS-4-P-2026

Development and growth of Omega-phase in a TiAl-Nb-Mo alloy and its effect on hardness

Presenting author: **Rashkova B.**

Authors: Rashkova B., Schloffer M., Schöberl T., Zhang Z., Mayer S., Clemens H.

MS-4-P-2044

Structural evolution of T91-ODS steel during high temperature deformation

Presenting author: **Litvinov D.**

Authors: Litvinov D., Strassberger L., Aktaa J.

MS-4-P-2089

The Study of Nanoparticles of Au₂O₃ using Tannic Acid and Gallic Acid

Presenting author: **Herrera-Becerra R.**

Authors: San German-Perez S., Zorrilla-Cangas C., Herrera-Becerra R.

MS-4-P-2091

Development of ultra-fine grained Mg-Fe alloys for hydrogen storage

Presenting author: **Neves A. M.**

Authors: Neves A. M., Coimbra D. D., Gallego J., Ishikawa T. T., Bolfarini C., Kiminami C. S., Leiva D. R., Botta W. J.

MS-4-P-2101

Microstructure and properties of CoCrMo alloy as a function of ball milling time and sintering temperature for load bearing application

Presenting author: **Mohamed Fadzil F. S.**

Authors: Mohamed Fadzil F. S., Abdull Hamid M. H., Mohammad M., Ahmad M. A., Saleh M. H.

MS-4-P-2108

TEM observation of microstructure in the early stage of Mg-Gd-Y alloy aged at 473K

Presenting author: **Matsuoka Y.**

Authors: Matsuoka Y., Matsuda K., Watanabe K., Nakamura J., Lefebvre W., Saikawa S., Ikeno S.

MS-4-P-2119

Transmission Electron Microscopy of 935 Silver Alloys Containing Sn and Be

Presenting author: **Sakultanchareonchai S.**

Authors: Sakultanchareonchai S., Nisaratanaporn E., Chairuang Sri T.

MS-4-P-2150

Focused Electron Beam Induced Deposited multi-metal nanoalloys

Presenting author: **Shawrav M. M.**

Authors: Shawrav M. M., Wanzenboeck H. D., Gavagnin M., Belić D., Wachter S., Schinnerl M., Bertagnolli E.

MS-4-P-2197

EBSD analyses of the dynamic recrystallisation in high-Mn steels

Presenting author: **Schwedt A.**

Authors: Wentz S. C., Krämer A., Schwedt A., Bambach M.

MS-4-P-2201

Formation of different carbide phases in the Nb-1%Zr-0.1%C alloy

Presenting author: **Bathula V.**

Authors: Bathula V., Tewari R., Dey G. K.

MS-4-P-2306

Microstructural evaluation of PM S390 MC high-speed steel using Transmission Electron Microscopy

Presenting author: **Jenko D.**

Authors: Jenko D., Šolić S., Dražić G., Leskovšek V., Jenko M.

MS-4-P-2310

Understanding the failure of oxidized grain boundaries

Presenting author: **Dohr J.**

Authors: Dohr J., Armstrong D., Tarleton E., Couvant T., Lozano-Perez S.

MS-4-P-2454

Effects of arcing on the Microstructure, Morphology and Photoelectric Work Function of Ag-ZnO Electrical Contacts.

Presenting author: **Akbi M.**

Authors: AKBI M., BOUCHOU A.

MS-4-P-2473

Interface characterization of a W-coated diamond/Al composite for thermal management applications: towards interface design and engineering

Presenting author: **Ji G.**

Authors: Ji G., Tan Z. Q., Lu Y. G., Schryvers D., Li Z. Q., Addad A., Zhang D.

MS-4-P-2491

Effect of heat treatment on the creep behavior and microstructural evolution of P92 steel

Presenting author: **Shin K.**

Authors: Shin K., He Y., Kim J., Chang J.

MS-4-P-2525

Multi-Scale-Analysis of Modern Aluminium-Alloys

Presenting author: **Schroettner H.**

Authors: Schroettner H., Panzirsch B., Albu M., Mitsche S., Mertschnigg S., Gspan C., Rattenberger J., Wagner J., Hofer F.,

MS-4-P-2526

Influences of Dy content and heat treatments on the formation of hydrides in Mg-Dy alloys

Presenting author: **Huang Y.**

Authors: Huang Y., Yang L., Wang Z., Kainer K., Hort N.

MS-4-P-2645

Microstructure of Duplex-Heat-Treated Ti-6Al-4V Alloy

Presenting author: **Khalil A. S.**

Authors: Khalil A. S., Abdel Rehim R. A.

MS-4-P-2649

TEM Investigation on the Surface Oxide Layer of an Annealed AISI-316L Stainless Steel Microfiber

Presenting author: **Ramachandran D.**

Authors: Ramachandran D., Egoavil R., Verbeeck J., Abakumov A., Schryvers D.

MS-4-P-2657

TEM study of low carbon steel subjected to severe plastic deformation by multistage compression

Presenting author: **Vilotic M.**

Authors: Vilotic M., Sidjanin L., Jeng Y., Alexandrov S., Kakas D.

MS-4-P-2744

Characterization of high strength Aluminium alloys with coherent precipitates

Presenting author: **Makineni S.**

Authors: Makineni S., Meher S., Banerjee R., kumar S., Chattopadhyay K.

MS-4-P-2800

Microstructural evolution in Ti-Fe-O-N alloys during heating at intermediate temperature

Presenting author: **Mitsuhara M.**

Authors: Mitsuhara M., Nagase T., Masuda T., Nishida M., Kunieda T., Fujii H.

MS-4-P-2829

Carbides Transformation Phenomena in AISI M42 Steel

Presenting author: **Godec M.**

Authors: Godec M., Večko Pirtovšek T., Šetina Batič B.

MS-4-P-2890

Understanding the role of silver in the NiTiAg4 SMA functional biomaterial: a microstructural and chemical insight

Presenting author: **Álvares Da Silva G. H.**

Authors: Álvares da Silva G. H., Otubo J.

MS-4-P-2968

Effect of Cu/ Ag addition on the Two-Step Aged Al-Mg-Si Alloys

Presenting author: **Matsuda K.**

Authors: Matsuda K., Oe Y., Ikeno S., Nakamura J.

MS-4-P-2974

Z-phase in Cr-Nb-N system studied by analytical electron microscopy

Presenting author: **Buršík J.**

Authors: Buršík J., Kroupa A.

MS-4-P-2976

Microstructure of a CoCrFeMnNi high-entropy alloy investigated by advanced TEM techniques

Presenting author: **Dlouhý A.**

Authors: Dlouhý A., Otto F., Somsen C., Bei H., Eggeler G., George E. P.,

MS-4-P-2991

Influence of Sb on spheroidal graphite in ductile cast iron

Presenting author: **Kuroki K.**

Authors: Kuroki K., Matsuda K., Hara T., Ikeno S., Saikawa S.

MS-4-P-3007

TEM observation of HPT-processed Cu-added excess Mg-type Al-Mg₂Si alloys

Presenting author: **Maruno S.**

Authors: Maruno S., Watanabe K., Matsuda K., Saikawa S., Hirose S., Horita Z., Lee S., Terada D.

MS-4-P-3014

The microstructure characterization of unalloyed austempered ductile iron

Presenting author: **Rajnovic D.**

Authors: Rajnovic D., Eric Cekic O., Labus D., Dramicanin M., Balos S., Sidjanin L.

MS-4-P-3017

Characterization of microstructure evolution in 9-12% Cr steels using SEM, HR-TEM, and EDS

Presenting author: **Kafexhiu F.**

Authors: Kafexhiu F., Žužek B., Vodopivec F., Godec M., Jenko M., Tuma J. V.

MS-4-P-3056

TEM investigation of nanosized interphase-precipitated carbides and fibrous carbides in a Fe-V-C steel

Presenting author: **Yang J. R.**

Authors: Yang J. R., Chen M. Y.

MS-4-P-3083

Three-dimensional characterization of Nanobelt-like Precipitates in Al-Si-Mg-Hf Aluminum Alloy

Presenting author: **Wang X. L.**

Authors: Wang X. L., Jia Z. H., Xing Y., Huang H. L., Liu Q.

MS-4-P-3084

Electron and Scanning Probe Microscopy Characterization of Shape Memory Alloy Micro-Pillars Array Along Nano-Compression Test

Presenting author: **Gómez-Cortés J. F.**

Authors: Gómez-Cortés J. F., San Juan J., López G. A., Jiao C., Nó M. L.

MS-4-P-3127

The Effect of Cu, Ag and Ge on Strength and Precipitation in a Lean 6xxx Alloy

Presenting author: **Mørtzell E. A.**

Authors: Mørtzell E. A., Marioara C. D., Røyset J., Holmestad R.

MS-4-P-3136

Hf-containing precipitates in the Al-Si-Mg-Hf aluminum alloy

Presenting author: **Jia Z. H.**

Authors: Jia Z. H., Wang X. L., Huang H. L., Xing Y., Liu Q.

MS-4-P-3143

The study of Sn effect on recrystallization of hot rolled Ti-Nb-Ta-Sn biomedical alloy

Presenting author: **Málek J.**

Authors: Málek J., Hnilica F., Veselý J.

MS-4-P-3237

HRTEM observation for precipitates structure of Al-Mg-Ge alloys aged at 473K

Presenting author: **Kawai A.**

Authors: Kawai A., Matsuura K., Watanabe K., Matsuda K., Ikeno S.

MS-4-P-3267

Microstructural analysis of cold-forged duplex stainless steel using EBSD and TEM techniques

Presenting author: **Fabrizi A.**

Authors: Fabrizi A., Bassan F., Bonollo F.

MS-4-P-3269

Shell-wise growth of (Nb,Ti)(C,N) precipitates during cyclic cooling of microalloyed steel

Presenting author: **Wojcik T.**

Authors: Wojcik T., Kozeschnik E.

MS-4-P-3305

Simultaneous determination of carbon concentration and misorientation angle in bainitic ferrite laths via convergent beam electron diffraction

Presenting author: **Tsai Y. T.**

Authors: Tsai Y. T., Tsai S. P., Huang C. Y., Yang J. R.

MS-4-P-3338

TEM identification of precipitates in the as-welded P91 steel performed by the flux cored arc welding (FCAW) process

Presenting author: **Marzocca A. L.**

Authors: Marzocca A. L., Luppo M. I., Zalazar M.

MS-4-P-3413

Comparison of the 3D Calcium and Aluminium distribution in standard and ECO-Mg alloys

Presenting author: **Wagner J.**

Authors: Wagner J., Schroettner H., Rattenberger J., Mitsche S., Panzirsch B.

MS-4-P-3421

Transmission electron microscopy and X-ray diffraction studies of Ni-W/ZrO₂ metal-matrix composites

Presenting author: **Indyka P.**

Authors: Indyka P., Beltowska-Lehman E., Kania B., Jany B. R.

MS-4-P-3457

Explanation of observed unusual X-ray Kossel reflection doubling at the ferromagnetic shape memory alloy Co-Ni-Al

Presenting author: **Langer E.**

Authors: Langer E., Däbritz S., Potapov L., Krátká K., Kopeček J.

MS-4-P-3474

The influence of the number of constrained groove pressing cycles on the microstructure of twin-roll cast aluminum alloy.

Presenting author: **Cieslar M.**

Authors: Cieslar M., Bajer J., Poková M., Zimina M., Zrník J.

MS-4-P-3537

Effects of arcing on the Microstructure, Morphology and Photoelectric Work Function of Ag-Ni Electrical Contacts.

Presenting author: **Bouchou A.**

Authors: Bouchou A., Akbi

MS-4-P-5706

Analysis of nanocrystals embedded in Co₃Ti made amorphous by severe plastic deformation

Presenting author: **Noisternig S.**

Authors: Noisternig S., Ebner C., Gammer C., Rentenberger C., Gspan C., Hofer F., Karnthaler H. P.

MS-4-P-5730

Microstructure of M152 rotor steel

Presenting author: **Ramar A.**

Authors: Ramar A., Oruganti R., Nalawade S., Swaminathan S., Vishwanath T., Sivakumar V., Mastromatteo F., Giovannetti I.

MS-4-P-5737

Study of fine scale microtexture features associated with globularization in a near β titanium alloy using precession electron diffraction (PED) assisted orientation electron microscopy (OIM)

Presenting author: **Balachandran S.**

Authors: Balachandran S., Sharath K., Banerjee D.

MS-4-P-5773

Application of Electron Backscatter Diffraction: Qualification of granular bainite in Nb-Mo containing low carbon bainitic hot rolled strips

Presenting author: **Huang B. M.**

Authors: Huang B. M., Chang Y. L., Chien Y. C., Yang J. R., Yen H. W., Huang C. Y.

MS-4-P-5779

Microstructural Investigation of the Nickel-Based Superalloy ATI 718Plus

Presenting author: **Whitmore L. C.**

Authors: Whitmore L. C.

MS-4-P-5797

TEM microstructure characterizations of Al-Mg-Si aluminum alloy processed by severe plastic deformation

Presenting author: **Yu Y. D.**

Authors: Yu Y. D., Liu M. P., Hjelen J., Roven H. J.

MS-4-P-5826

Microstructural characterization of detonation sprayed MMC coatings

Presenting author: **Dudina D. V.**

Authors: Dudina D. V., Batraev I. S., Ulianitsky V. U., Korchagin M. A., Lomovsky O. I., Bataev I. A.

MS-4-P-5850

Experimental and simulated crystal structure of phases in Mg-12wt.%Zn alloy

Presenting author: **Němec M.**

Authors: Němec M., Gärtnerová V., Dražokoupiš J., Klementová M.

MS-4-P-5862

A Novel Method for Microstructural Characterization of Cast Iron

Presenting author: **Arul J. P.**

Authors: Arul J. P., Varman M.

MS-4-P-5864

Anisotropic creep properties in single crystal superalloys at low temperature and high stress

Presenting author: **Long H. B.**

Authors: Long H. B., Wei H., Mao S. C., Li Q., Xiang S. S., Zhang Z., Han X. D.

MS-4-P-5920

Possibility of two kinds of nucleation-sites of α -phase precipitates in a β -type Ti-15V-3Cr-3Sn-3Al alloy aged due to a two-step aging at high and low temperatures

Presenting author: **Sukedai E.**

Authors: Sukedai E.

MS-4-P-5924

Investigation of Nanocrystalline Nickel and Severely Plastically Deformed Ag-Cu Nano-Eutectic using TEM Automated Crystal Orientation Mapping

Presenting author: **Van Driel R. R.**

Authors: Cizek P., van Driel R. R., Wen M., Barnett M. R., Hodgson P. D.

MS-4-P-5943

Transmission Electron Microscopy Study of the Strain-Induced Precipitation in a Model Austenitic Fe-30Ni-Nb Steel

Presenting author: **Poddar D.**

Authors: Poddar D., Cizek P., Beladi H., Hodgson P. D.

MS-4-P-5948

Nano-scale analysis on the cementite dissolution behavior of high carbon tire-cords by using atom probe tomography

Presenting author: **Bang C. W.**

Authors: Bang C. W., Yang Y. S., Park C. G.,

MS-4-P-5949

In-situ TEM annealing study of void shrinkage in aluminium

Presenting author: **Bourgeois L.**

Authors: Zhang Z., Nakashima P. N., Smith A. E., Medhekar N. V., Bourgeois L.,

MS-4-P-5953

NI-AFM measurements of phases in 2nd generation PWA1484 and 4th generation PWA1497 single crystal nickel-base superalloys

Presenting author: **Ziętara M.**

Authors: Ziętara M., Czyrska-Filemonowicz A.

MS-4-P-5984

TEM STUDY OF THE INFLUENCE OF PRE-AGING AT 100°C ON PRECIPITATION DURING ARTIFICIAL AGING IN Al-Mg-Si.

Presenting author: **Castro Riglos M. V.**

Authors: Castro Riglos M. V., Nosedá Grau V., Cuniberti A., Stipcich M., Tolley A.

MS-4-P-5987

TEM Characterization of oxide dispersions in Al compacts from powder metallurgy.

Presenting author: **Castro Riglos M. V.**

Authors: Castro Riglos M. V., Moreno M., Balog M., Krizik P., Tolley A.

MS-4-P-5991

Identification of phases in titanium alloy and correlation between EBSD, High Voltage, Medium Voltage and Low Voltage BSE imaging

Presenting author: **Čupera J.**

Authors: Čupera J., Jan V.

MS-4-P-6003

Electron microscopy and spectroscopy for the study of helium cavities and radiation damage in oxide-dispersion-strengthened steels

Presenting author: **Walls M.**

Authors: Walls M., Badjeck V., Meslin E., Bhattacharya A., March K.

MS-4-P-6009

TEM Investigation of the Effect of NbC Precipitates on Microband Alignment during Multipass Hot Deformation of Model Fe-30Ni-Nb Microalloyed Steel

Presenting author: **Poddar D.**

Authors: Poddar D., Cizek P., Beladi H., Hodgson P. D.

MS-4-P-6024

The microstructure of Al-Ni-Fe-La polycrystalline alloys.

Presenting author: **Kolobylina N. N.**

Authors: Kolobylina N. N., Lopatin S., Presniakov M. Y., Vasiliev A. L., Bakhteeva N. D., Todorova E. V., Ivanova A. G.

MS-4-P-6043

Effect of microstructure development on mechanical properties of ECAP-processed AE42 and LAE442 magnesium alloys.

Presenting author: **Minárik P.**

Authors: Minárik P., Král R.

MS-4-P-6045

Combine EBSD stage and beam long scan on two Titanium metal sheets assembled by friction stir welding

Presenting author: **Brisset F.**

Authors: Brisset F., Baudin T., Helbert A. L.

MS-4-P-6051

Various modes of α phase precipitation in metastable β titanium alloys

Presenting author: **Šmilauerová J.**

Authors: Šmilauerová J., Harcuba P., Holý V., Stráský J.

MS-4-P-6062

Effects of the Localized Overheat On the Microstructure of Centrifugally Cast HP-Steels Used In Steam Reformer Furnaces

Presenting author: **De Almeida L. H.**

Authors: Mendes M. C., de Almeida L. H., Dille J. A.