Poster Information

Wednesday 12th June 2024, 16:40 – 18:00
Thursday 13th June 2024, 10:30 – 12:45

24th International Conference & Exhibition
Monday 10th to Friday 14th June 2024
University College Dublin, Ireland

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Poster No.	ICE24 Paper No.	Digital Manufacturing and Automation in Precision Engineering
P1.01	ICE24121	**Automated scheduling system for parallel gear grinding machines** Christopher Janßen[1], Melina Kamratowski[1], Mareike Davidovic[1], Thomas Bergs[1,2] *[1]Laboratory for Machine Tools and Production Engineering (WZL) of RWTH Aachen University, Campus-Boulevard 30, 52074 Aachen* *[2]Fraunhofer IPT, Steinbachstraße 17, 52074 Aachen, Germany*
P1.02	ICE24144	**Artificial neural network-based tool condition monitoring of titanium alloy end mill process using time series data** Kangseok Kim[1], Miru Kim[2], Deugwoo Lee[1] *[1]Department of Nano Energy Engineering Pusan National University, Busan, Republic of Korea* *[2]Dongnam Division, Korea Institute of Industrial Technology, Jinju, Republic of Korea*
P1.03	ICE24146	**High-precision flexure-based XY-stage with high stiffness and load capacity** Patrick Flückiger[1], Hubert Schneegans[1], Simón Prêcheur Llarena[1], Charles Baur[1], Simon Henein[1] *[1]Micromechanical and Horological Design Laboratory, Instant-Lab, EPFL, Switzerland*
P1.04	ICE24149	**A review and benchmark study of tool state recognition in the CNC milling process** Chen Yin[1], Jeong Hoon Ko[2] *[1]Hong Kong Institute for Data Science, School of Data Science, City University of Hong Kong, Kowloon, Hong Kong* *[2]Taizhou Institute of Zhejiang University, 618, West Section of Shifu Avenue, Taizhou City, Zhejiang Province*
P1.05	ICE24158	**Energy-saving tool path generation for NC machine tools by model based simulation of feed drive system** Akio Hayashi[1], Naru Kawamura[1], Yoshitaka Morimoto[1] *[1]Kanazawa Institute of Technology*
P1.06	ICE24209	**Use of digital tools to simulate the accuracy of subtractive machining processes** Simon Fletcher[2], Steve Taylor[1], Steve McVey[1], Patrick Land[1], Andrew Longstaff[2] *[1]Machine Tool Technologies Ltd* *[2]University of Huddersfield*
P1.07	ICE24213	**Rehabilitation-oriented human hand model reductions** Tomislav Bazina[1,2], Saša Zelenika[1,2], Goran Mauša[1], and Ervin Kamenar[1,2] *[1]University of Rijeka, Faculty of Engineering, & C entre for Artificial Intelligence and Cybersecurity, Radmile Matejčić 2, 51000 Rijeka, Croatia* *[2]University of Rijeka, Centre for Micro- and Nanosciences and Technologies, Radmile Matejčić 2, 51000 Rijeka, Croatia*

P1.08	**ICE24223**	**Micro deburring of high-precision injection moulded parts using thermal energy machining** E. Uhlmann[1,2], T. Hocke[2], C. Schmiedel[1], M. Casel[3], A. Ghani[3], C. Lahoda[2] *[1]Fraunhofer Institute for Production Systems and Design Technology IPK, Germany* *[2]Institute for Machine Tools and Factory Management IWF, Technische Universität Berlin, Germany* *[3]Data Analysis and Modeling of Turbulent Flows DMF, Technische Universität Berlin, Germany*
P1.09	**ICE24248**	**Digital surface shadow for fly-cut surfaces utilizing dynamic axis data** Sabrina Stemmer[1], Lars Schönemann[1,2], Oltmann Riemer[1], Bernhard Karpuschewski[1,2] *[1]Leibniz Institut für Werkstofforientierte Technologien IWT, Laboratory for Precision Machining LFM, Badgasteiner Straße 2, 28359 Bremen , Germany* *[2]MAPEX Center for Materials and Processes, University of Bremen, Germany*
P1.10	**ICE24251**	**3D measurement vision system using reflection for machine tools** Youngjun Yoo[1], Seungtaek Kim[1] *[1]Industrial Transformation Technology department ,Korea Institute of Industrial Technology*
P1.11	**ICE24253**	**Plasma electrolytic polishing of bulk metallic glasses: what determines success?** Kristina Navickaitė[1,2], Klaus Nestler[2], Jan Wegner[3], Stefan Kleszczynski[3,4], Michael Penzel[1,2,5], Falko Böttger-Hiller[1], Henning Zeidler[1, 2] *[1]Technical University Bergakademie Freiberg, Faculty of Mechanical, Process and Energy Engineering, Institute for Machine Elements, Engineering Design and Manufacturing, Professorship for Additive Manufacturing, Agricolastr. 1, 09599, Freiberg, Germany* *[2]Beckmann Institute for Technology Development e.V., Annabergerstr. 73, 09111, Chemnitz, Germany* *[3]University Duisburg-Essen, Faculty of Engineering, Institute for Product Engineering, Chair of Manufacturing Technology, Lotharstr. 1, 47057 Duisburg, Germany* *[4]Center for Nanointegration Duisburg-Essen (CENIDE), Carl-Benz-Str. 199, Duisburg, 47057, Germany* *[5]Plasmotion GmbH, Halsbrücke Str. 34, 09599 Freiberg, Germany*
P1.12	**ICE24294**	**Root cause analysis in Float-Zone crystal growth production using fishbone diagram and association rule mining** Tingting Chen[1], Guido Tosello[1], Matteo Calaon[1] *[1]Technical University of Denmark, Produktionstorvet, 2800 Kgs. Lyngby, Denmark*
P1.13	**ICE24298**	**An in-process digital twin and decision support system for additive manufacturing** Cathal Hoare[1], Andrew Parnell[2] & Denis Dowling[1] *[1]I-Form Centre, School of Mechanical and Materials Engineering, University College Dublin, Dublin, D04 V1W8, Belfield, Ireland* *[2]Department of Mathematics & Statistics, Maynooth University, Maynooth, Kildare, Ireland*
P1.14	**ICE24301**	**Adaptive dexelisation approach for material removal simulation in milling** Yigit Ozcan[1,2], Shashwat Kushwaha[1,2], Jun Qian[1,2], Dominiek Reynaerts[1,2] *[1]Department of Mechanical Engineering, KU Leuven, Celestijnenlaan 300, Leuven 3001, Belgium* *[2]Member Flanders Make, Belgium*

P1.15	**ICE24303**	**Data-driven modeling for the correlation of the inputs and outputs in thermoplastic micro injection molding** Alireza Mollaei Ardestani[1], Reza Asadi[2], Uma Maheshwaran Radhakrishnan[1], Inigo Flores Ituarte[2], Murat Kulahci[3], Matteo Calaon[1], Jesper Henri Hatel[1], Guido Tosello[1] *[1]Department of Civil and Mechanical Engineering, Technical University of Denmark, 2800 Kgs. Lyngby, Denmark* *[2]Faculty of Engineering and Natural Sciences, Tampere University, Korkeakoulunkatu 6, 33014, Tampere, Finland* *[3]Department of Applied Mathematics and Computer Science, Technical University of Denmark, 2800 Kgs. Lyngby, Denmark*
P1.16	**ICE24306**	**In-process point cloud generation and predictive correction in Selective Thermal Electrophotographic Process** Shuo Shan[1], Hans Nørgaard Hansen[1], Yang Zhang[1], Matteo Calaon[1] *[1]Department of Civil and Mechanical Engineering, Technical University of Denmark, Building 427A, Produktionstorvet, 2800 Kgs. Lyngby, Denmark*

Poster No.	ICE24 Paper No.	Metrology
P2.01	**ICE24120**	**Measuring capability of a confocal sensor integrated in a two-stage long-range nanopositioning platform** L.C. Díaz-Pérez[1], M. Torralba[2], J.A. Albajez[1], J.A. Yagüe-Fabra[1] *[1]I3A, Universidad de Zaragoza, Zaragoza, Spain* *[2]Centro Universitario de la Defensa, Zaragoza, Spain*
P2.02	**ICE24128**	**Methodologies for the comparison of gear measurement results using tactile and fibre optic laser interferometry sensors within a Coordinate measuring machine** Denis Sexton[1], Andy Sharpe[2], Robert Frazer[3], Sofia Catalucci[1], Samanta Piano[1] *[1]Manufacturing Metrology Team, Faculty of Engineering, University of Nottingham, UK* *[2]Department of Metrology and NDT, Manufacturing Technology Centre (MTC), UK* *[3]National Gear Metrology Laboratory (NGML) Department of Engineering, Newcastle University, UK*
P2.03	**ICE24135**	**A comparative study of network sensor and laser tracker in establishing digital twin for robotic manufacturing** Zhaosheng Li[1], Francesco Giorgio-Serchi[2], Nicholas Southon[3], Andrew Brown[1], Nan Yu[1] *[1]Institute for Materials and Processes, The University of Edinburgh, Edinburgh EH8 9FB, UK* *[2]Institute for Mirco and Nano Systems, The University of Edinburgh, Edinburgh EH8 9FB, UK* *[3]INSPHERE, Bristol & Bath Science Park, Dirac Crescent, Emersons Green, Bristol, BS16 7FR, UK*
P2.04	**ICE24136**	**Resolution enhancement of Fabry-Perot optical fiber probe for microstructure measurement** Hiroshi Murakami[1], Akio Katsuki[2], Takao Sajima[2], and Tatsumi Yoshimatsu[1] *[1]The University of Kitakyushu* *[2]Kyushu University*
P2.05	**ICE24137**	**Identification of geometric errors of rotary axes on five-axis machine tools by tactile on-machine measurement** Yue Tang[1], Xiaobing Feng[1], Guangyan Ge[1], Zhengchun Du[1] *[1]Shanghai Jiao Tong University, Shanghai, China*

P2.06	**ICE24141**	**Refraction effects on a Structured Laser Beam as a reference line for alignment** Witold Niewiem[1,2] , Jean-Christophe Gayde[1], Dirk Mergelkuhl[1] *[1]CERN – European Organization for Nuclear Research, Switzerland* *[2]ETH Zurich, Switzerland*
P2.07	**ICE24153**	**Calibration of reference spheres by double-ended interferometry** Tillman Neupert-Wentz[1], Guido Bartl[1], René Schödel[1] *[1]Physikalisch-Technische Bundesanstalt*
P2.08	**ICE24178**	**Analysis of the influence of cutting conditions on surface roughness of turning workpieces using a focus variation optical system** Sergio Aguado[1,2], Marcos Pueo[1,2], Raquel Acero[1,2], Ana C. Majarena[1,2], Jorge Santolaria[1,2] *[1]Department of Design and Manufacturing Engineering department, University of Zaragoza, C\María de Luna3, Zaragoza 50018, Spain* *[2]Instituto de Investigación en Ingeniería de Aragón (I3A), 50018 Zaragoza, Spain*
P2.09	**ICE24180**	**Evaluation of the measurement uncertainty of a high-precision telescopic instrument for machine tool verification** Francisco Javier Brosed[1,2,3], Juan José Aguilar[1,2], Raquel Acero[1,2], Sergio Aguado[1,2], Marcos Pueo[1,2] *[1]Department of Design and Manufacturing Engineering, University of Zaragoza, María de Luna 3, 50018 Zaragoza, Spain.* *[2]Instituto de Investigación en Ingeniería de Aragón (I3A), 50018 Zaragoza, Spain* *[3]fjbrosed@unizar.es*
P2.10	**ICE24189**	**Shape memory alloy mechanical actuator with reduced commutation time** Simón Prêcheur Llarena[1], Loïc Tissot-Daguette[1], Marjan Ghorbani[1], Charles Baur[1], Simon Henein[1] *[1]École Polytechnique Fédérale de Lausanne, Switzerland*
P2.11	**ICE24212**	**Model enhanced paperboard permeability measurement with aerostatically sealed non-contacting instrument** Mikael Miettinen[1], Valtteri Vainio[1], Onni Leutonen[1], Petteri Haverinen[1], Raine Viitala[1] *[1]Aalto University*
P2.12	**ICE24232**	**Attenuation of thermographic disturbances emitted from a high-sensitivity sensor** HyungTae Kim[1], Kwon-Yong Shin[1], Jun Yong Hwang[1] & Heuiseok Kang[1] *[1]Research Institute of Human-Centric Manufacturing Technology, KITECH, Sangrok, Ansan, Gyeonggi, South Korea*
P2.13	**ICE24240**	**The INRIM electrostatic balance to implement the new SI definition of the mass in the milligram range** Milena Astrua[1], Marco Pisani[1], Marco Santiano[1], Fabio Saba[1], Marina Orio[1] *[1]Istituto Nazionale di Ricerca Metrologica, INRIM, strada della Cacce 91 – 10135 – Torino - Italy*
P2.14	**ICE24246**	**Measuring vibrations in interferometric optical profilometry through imaging fringes at 1kHz** Chaoren Liu, Carlos Bermudez, Guillem Carles, Roger Artigas *Sensofar Tech, S.L., Parc Audiovisual de Catalunya, Ctra. BV-1274, KM 1, 08225 Terrassa (SPAIN)*
P2.15	**ICE24247**	**Study of calibration technique for hybrid structured-light metrology system** Yongjia Xu[1], Feng Gao[1], Yanling Li[1,2] & Xiangqian Jiang[1] *[1]EPSRC Future Metrology Hub, University of Huddersfield, Huddersfield, HD1 3DH, UK* *[2]School of Mechanical Engineering, Hebei University of Technology, Tianjin 300130, China*

P2.16	**ICE24256**	**Investigation of the filtering effect of virtual image correlation methods in the context of ISO standards** Filippo Mioli[1], Marc-Antoine De Pastre[2], Enrico Savio[1], Nabil Anwer[2], Yann Quinsat[2] [1]*Università degli Studi di Padova, Precision Manufacturing research group, 35131, Padova, Italy* [2]*Université Paris-Saclay, ENS Paris-Saclay, LURPA, 91190, Gif-sur-Yvette, France*
P2.17	**ICE24259**	**Visual focusing and levelling towards optical inspection of Mini/MicroLED panels** Hui Tang[1], Yuzhang Wei[2], Xiaoxian Ou[2], Yingjie Jia[2], Yanling Tian[1] [1]*School of Engineering, The University of Warwick; Coventry, UK* [2]*Electromechanical engineering, Guangdong University of Technology, Guangzhou, China*
P2.18	**ICE24262**	**Optimization of symmetrical layers of optical caustic beams generated using cylindrical lenses** Martin Dusek[1,2], Jean-Christophe Gayde[1], Miroslav Sulc[2,3] [1]*The European Organization for Nuclear Research (CERN), Geneva, Switzerland* [2]*Technical University of Liberec (TUL), Liberec, Czech Republic* [3]*Institute of Plasma Physics of the Czech Academy of Sciences (IPP CAS), Prague, Czech Republic*
P2.19	**ICE24270**	**Motion stage technology for large size OLED flat panel inkjet printing equipment** Li Qi[1], Cao Donghao[1], Zhou Chuanyan[1], Wang Guanming[1], Zhou Zhi[1], Wang Shuhui[1] [1]*Ji Hua Laboratory, Foshan, China*
P2.20	**ICE24277**	**Single-shot transmission Differential Interference Contrast Microscopes using LC Savart prism as the shear device** Shyh-Tsong Lin and Ting-Yu Chien *Department of Electro-optical Engineering, National Taipei University of Technology, 1, Sec.3, Chung-Hsiao East Road, Taipei 10608, Taiwan*
P2.21	**ICE24280**	**Realization of a uniform magnetic field for the KRISS Kibble balance II** MyeongHyeon Kim[1], Dongmin Kim[1], Minky Seo[1], Sung Wan Cho[1], Jinhee Kim[1] and Kwang-Cheol Lee[1] [1]*Quantum Mass Metrology Group, Quantum Technology Institute, Korea Research Institute of Standards and Science (KRISS) 267 Gajeong-ro, Yuseong-gu, Daejeon 34113 Republic of Korea*
P2.22	**ICE24282**	**Detecting microscale impurities on additive surfaces using light scattering** Ahmet Koca[1], Helia Hooshmand[1], Mingyu Liu[2], Richard Leach[1] [1]*Manufacturing Metrology Team, Faculty of Engineering, University of Nottingham, Nottingham, UK* [2]*School of Engineering, University of Lincoln, Lincoln, UK*
P2.23	**ICE24283**	**Simulation-based approach on relative intensity effect in multi material X-Ray computed tomography evaluation** D. Gallardo[1], L.C Díaz-Pérez[1], J.A. Albajez[1], J.A. Yagüe-Fabra[1] [1]*I3A, Universidad de Zaragoza, Zaragoza, Spain*
P2.24	**ICE24288**	**Enhancing single camera calibration results using artificial bee colony optimisation within a virtual environment** Mojtaba A. Khanesar[1], Luke Todhunter[1], Vijay Pawar[2], Hannah Corcoran[2] Lindsay MacDonald[2], Stuart Robson[2], Samanta Piano[1] [1]*Faculty of Engineering, University of Nottingham, NG8 1BB, Nottingham, UK* [2]*Faculty of Engineering Science, University College London, WC1E 6BT UK*

P2.25	**ICE24292**	**Stereo camera calibration with fluorescent spherical marker and laser interferometer** Kenji Terabayashi[1], Kazuya Ogasawara[2], Yuuki Hamamoto[2], Takaaki Oiwa[2], Tohru Sasaki[1] *[1]Graduate School of Science and Engineering, University of Toyama* *[2]Department of Mechanical Engineering, Shizuoka University*
P2.26	**ICE24293**	**Development of a multi-configuration support for the comparison of X-ray computed tomography and optical profilometry surface texture measurements** Filippo Mioli[1], Nicolò Bonato[2], Simone Carmignato[2], Enrico Savio[1] *[1]Università degli Studi di Padova, Department of Industrial Engineering, Padova, Italy* *[2]Università degli Studi di Padova, Department of Management and Engineering, Vicenza, Italy*
P2.27	**ICE24297**	**Sub-minute measurement times in inline-CT: development of a fast data acquisition pipeline** N. Kayser[1], G. Dürre[1], A. Tsamos[1], C. Bellon[1], C. Hein[1] *[1]Fraunhofer Institute for Production Systems and Design Technology IPK, Germany* *[2]Bundesamt für Materialforschung und -prüfung, Unter den Eichen 87 12205 Berlin, Germany*
P2.28	**ICE24304**	**Versatile high precision synchrotron diffraction machine** G. Olea, N. Huber, J. Zeeb, R. Schneider *HUBER Diffraktionstechnik GmbH & Co. KG, Rimsting, Germany*
P2.29	**ICE24305**	**EURAMET's European Metrology Network for Advanced Manufacturing** Anita Przyklenk[1], Alessandro Balsamo[2], Harald Bosse[1], Alex Evans[3], Daniel O'Connor[4] and Dishi Phillips[5] *[1]Physikalisch-Technische Bundesanstalt (PTB), Braunschweig, Germany* *[2]Istituto Nazionale di Ricerca Metrologica (INRIM), Torino, Italy* *[3]Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, Germany* *[4]National Physical Laboratory (NPL), Teddington, United Kingdom* *[5]European Society for Precision Engineering and Nanotechnology (euspen), Cranfield, UK*

Poster No.	ICE24 Paper No.	Advances in Precision Engineering
P3.01	**ICE24106**	**Investigation of the interfacial damping characteristics of passively damped components in ultrasonic frequency range** E. Uhlmann[1,2], M. Polte[1,2], T. Hocke[1], J. Tschöpel[1] *[1]Institute for Machine Tools and Factory Management IWF, Technische Universität Berlin, Germany* *[2]Fraunhofer Institute for Production Systems and Design Technology IPK, Germany*
P3.02	**ICE24108**	**Nano-to microscale experimental characterisation of the tribological behaviour of Al_2O_3 thin films via lateral force microscopy** Marko Perčić,[1, 2] Saša Zelenika,[1, 2] and Martin Tomić [1] *[1]University of Rijeka, Faculty of Engineering, Laboratory for Precision Engineering, Vukovarska 58, 51000 Rijeka, Croatia* *[2]University of Rijeka, Centre for Micro- and Nanosciences and Technologies & Centre for Artificial Intelligence and Cybersecurity - Laboratory for AI in Mechatronics, Radmile Matejčić 2, 51000 Rijeka, Croatia*

P3.03	**ICE24115**	**Ultra-precision cutting of graphite materials for air bearing applications using single crystal diamonds** E. Uhlmann[1,2], M. Polte[1,2], T. Hocke[1,2], F. Felder[1] [1]*Institute for Machine Tools and Factory Management IWF, Technische Universität Berlin, Germany* [2]*Fraunhofer Institute for Production Systems and Design Technology IPK, Germany*
P3.04	**ICE24117**	**Waste heat energy harvesting system for winter monitoring of honeybee colonies** Petar Gljušćić[1,2] and Saša Zelenika[1,2] [1]*University of Rijeka, Faculty of Engineering, Precision Engineering Laboratory, Vukovarska 58, 51000 Rijeka, Croatia* [2]*University of Rijeka, Centre for Micro- and Nanosciences and Technologies, Radmile Matejčić 2, 51000 Rijeka, Croatia*
P3.05	**ICE24122**	**The evolution and future trends of the mounting of high-performance optics** Marwène Nefzi[1], Jens Kugler[1] [1]*Carl ZEISS SMT GmbH, Oberkochen, Germany*
P3.06	**ICE24139**	**Three-dimensional observation and morphological analysis of inclusions in a Ni-Co-based superalloy using the serial sectioning method** Yuki Aida[1,2], Ryoma Suzumura[1,2], Norio Yamashita[2], Shinya Morita[1,2], Toru Hara[3], Toshio Osada[3], and Hideo Yokota[2] [1]*Nano Precision Manufacturing Laboratory, Tokyo Denki University, Japan* [2]*RIKEN Center for Advanced Photonics, RIKEN, Japan* [3]*National Institute for Materials Science, Japan*
P3.07	**ICE24143**	**Design and manufacture of face grinding wheels with micro-structured channels** Lukas Steinhoff[1], Emma Tubbe[1], Folke Dencker[1], Tim Denmark[2], Lars Kausch[2], Marc Christopher Wurz[1] [1]*Institute of Micro Production Technology (IMPT), Garbsen, Germany* [2]*Schmitz Schleifmittelwerk GmbH, Remscheid, Germany*
P3.08	**ICE24154**	**Superhydrophobic surfaces for polymers with micro and sub-micro scale structure via Two-Photon Polymerization** Kai Liu[1], Marco Sorgato[1], Enrico Savio[1] [1]*Department of Industrial Engineering, University of Padua, Padova 35131, Italy*
P3.09	**ICE24161**	**In-situ fine adjustment system for in-vacuo weighing cells** Mario André Torres Melgarejo, René Theska *Technische Universität Ilmenau, Department of Mechanical Engineering Institute for Design and Precision Engineering, Precision Engineering Group*
P3.10	**ICE24163**	**Impact of higher-order surface imperfections on the stiffness of flexure hinges** Martin Wittke, Maria-Theresia Ettelt, Matthias Wolf, Mario André Torres Melgarejo, Maximilian Darnieder, René Theska *Technische Universität Ilmenau, Department of Mechanical Engineering, Institute for Design and Precision Engineering, Precision Engineering Group*
P3.11	**ICE24166**	**Orientation-dependent behavior of miniaturized compliant mechanism for high-precision force sensors** Matthias Wolf, Mario A. Torres Melgarejo, Martin Wittke, René Theska *Technische Universität Ilmenau, Institute of Design and Precision Engineering, Precision Engineering Group*
P3.12	**ICE24169**	**Positioning and alignment strategy in freeform mirror-based systems** Sumit Kumar, Wenbin Zhong, Shan Lou, Paul Scott, Xiangqian Jiang, Wenhan Zeng *EPSRC Future Metrology Hub, Centre for Precision Technologies, School of Computing and Engineering, University of Huddersfield, Huddersfield, HD1 3DH, United Kingdom*

P3.13	**ICE24182**	**Influence of binder content on the wear behaviour of carbide milling tools in high-precision machining of injection moulds made of AlMgSi1** E. Uhlmann[1,2], M. Polte[1,2], T. Hocke[1,2], N. Maschke[1] [1]*Institute for Machine Tools and Factory Management IWF, Technische Universität Berlin, Germany* [2]*Fraunhofer Institute for Production Systems and Design Technology IPK, Germany*
P3.14	**ICE24225**	**Modelling and analysis of cutting forces in ultraprecision diamond turning of freeform surfaces and their assessment** Shangkuan Liu[1], Kai Cheng[1] and Joe Armstrong[2] [1]*Department of Mechanical and Aerospace Engineering, Brunel University London, Uxbridge, London, UK* [2]*Polytec GmbH, Polytec-Platz 1-7, 76337 Waldbronn, Germany*
P3.15	**ICE24241**	**Temperature-dependent modification of gallium nitride using vacuum hydrogen plasma** Tong Tao[1], Yuya Onishi[1], Rongyan Sun[1], Yuji Ohkubo[1] and Kazuya Yamamura[1] [1]*Research Center for Precision Engineering, Graduate School of Engineering, Osaka University, 2-1 Yamadaoka, Suita, Osaka 565-0871, Japan*
P3.16	**ICE24276**	**The anisotropy of deformation behaviors of MgF_2 single crystal** Yinchuan Piao[1,2], Xichun Luo[2], Chen Li[1], Qi Liu[2], Feihu Zhang[1] [1]*School of Mechatronics Engineering, Harbin Institute of Technology, Harbin, China* [2]*Centre for Precision Manufacturing, DMEM, University of Strathclyde, Glasgow, UK*
P3.17	**ICE24302**	**New shape profiling polishing method for diffuser microstructured surface** Pengfei Zhang[1], Zhao Jing[1], Linguang Li[1], Saurav Goel[2], Jiang Guo[1] [1]*State Key Laboratory of High-performance Precision Manufacturing, Dalian University of Technology, Dalian, 116024, China* [2]*School of Engineering, London South Bank University, London, SE10AA, UK*

Poster No.	ICE24 Paper No.	Mechanical Manufacturing Processes
P4.01	**ICE24103**	**Effect of electric fields on micro-scratching of calcium fluoride** Yunfa Guo[1], Jiaming Zhan[1] [1]*Department of Mechanical Engineering, College of Design and Engineering, National University of Singapore*
P4.02	**ICE24107**	**Advancing sustainable and efficient industrial cleaning: CO_2 snow jet blasting for residue-free surface cleaning** E. Uhlmann[1,2], J. Polte[1,2], P. Burgdorf[1], W. Reder[2], J. Fasselt[1] [1]*Fraunhofer Institute for Production Systems and Design Technology IPK, Germany* [2]*Institute for Machine Tools and Factory Management (IWF), Technische Universität Berlin, Germany*
P4.03	**ICE24110**	**Influence of drilling depth and feed per tooth on burr formation when micro drilling** Sonja Kieren-Ehses[1], Felix Zell[1], Benjamin Kirsch[1], Jan C. Aurich[1] [1]*Institute for Manufacturing Technology and Production Systems, RPTU Kaiserslautern, Gottlieb-Daimler-Str., 67663 Kaiserslautern, Germany*
P4.04	**ICE24132**	**Comparison of different approaches towards measuring cutting edge radius and geometry on ultra sharp diamond and cbn tools** Jindrich Sykora[1,2], Marvin Groeb[2] [1]*Department of Machining Technology, University of West Bohemia, CZ* [2]*Kern Microtechnik GmbH, DE*

P4.05	**ICE24151**	**Tool wear in drilling using cutting fluid diluted with alkaline aqueous solutions** Hideo Takino[1], Souta Kashiwa[1], Yuki Hara[1], and Motohiko Hayashi[2] *[1]Chiba Institute of technology, Japan* *[2]Maruemu Shoukai Co.,Ltd., Japan*
P4.06	**ICE24160**	**Mechanical machining of a Ni-Mn-Ga alloy with magnetic shape memory effect** E. Uhlmann[1,2], J. Polte[1,2], B. Hein[1], Y. Kuche[2] *[1]Fraunhofer Institute for Production Systems and Design Technology IPK, Germany* *[2]Institute for Machine Tools and Factory Management IWF, Technische Universität Berlin, Germany*
P4.07	**ICE24181**	**Monitoring and prediction in centering process of optical glass lenses using long short-term memory with acoustic emission sensor** Shiau-Cheng Shiu[1], Yu-Chen Liang[1], Chun-Wei Liu[1] *[1]Department of Power Mechanical Engineering, National Tsing Hua University*
P4.08	**ICE24186**	**Validation of the cutting equation by accurate orthogonal cutting experiments** Hiroo Shizuka[1], Katsuhiko Sakai[1], Jinya Yoshida[1], Kenichi Ishihara[2], Yoshihiro Kawakami[2] *[1]Shizuoka University,3-5-1 Johoku Naka-ku Hamamatsu Shizuoka 432-8561 Japan* *[2]Johoku Industrial Co.Ltd, 1092 Kamiarayacho Higashi-ku Hamamatu Shizuoka 435-0053 Japan*
P4.09	**ICE24195**	**Precision cutting of Ni-P plated large mold for X-ray mirror - The effect of tool positioning error on the workpiece form deviation** Hirofumi Suzuki[1], Tatsuya Furuki[1], Katsuhiro Miura[1], Yoshiharu Namba[1], Hisamitsu Awaki[2], Shinya Morita[3] and Akinori Yui[4] *[1]Chubu University, 1200, Matsumoto, Kasugai, Aichi, 487-8501, Japan* *[2]Ehime University, 10-13, Dogohimata, Matsuyama, Ehime,790-0825, Japan* *[3]Tokyo Denki University, 5, Senjuasahi, Adachi, Tokyo, 120-0026, Japan* *[4]Kanagawa University, 3-27-1, Rokkakubashi, Kanagawa, Yokohama, Kanagawa, 221-8686, Japan*
P4.10	**ICE24203**	**CAD geometry preparation issues effecting FE simulation accuracy** Thomas Furness, Simon Fletcher, Andrew Longstaff *The University of Huddersfield, Queensgate, Huddersfield, HD1 3DH*
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P4.16	**ICE24245**	**Nanopolycrystalline diamond for precision machining of binderless cemented carbide** E. Uhlmann[1,2], J. Polte[1,2], T. Hocke[1], C. Polte[1] *[1]Institute for Machine Tools and Factory Management IWF, Technische Universität Berlin, Pascalstr. 8-9, Berlin, 10587, Germany* *[2]Fraunhofer Institute for Production Systems and Design Technology IPK, Pascalstr. 8-9, Berlin, 10587, Germany*
P4.17	**ICE24265**	**Study of sub surface damage in preparation of freeform glass optics using laser assisted single point diamond turning** Sai Kode[1], Jonathan D. Ellis[1], Daniel Ewert[2] and Felix Zeller[2] *[1]Micro-LAM, Inc. 5960 S Sprinkle Rd, Portage, Michigan 49002, United States* *[2]Carl Zeiss Jena GmbH, Standort Oberkochen, Carl-Zeiss-Straße 22 73446 Oberkochen, Germany*
P4.18	**ICE24279**	**A study of surface residual stress and crystal quality during ultra-precision diamond cutting of ZnSe crystal s** Chi Fai Cheung[1 2] and Huapan Xiao[1,2] *[1]State Key Laboratory of Ultraprecision Machining Technology, Department of Industrial and Systems Engineering, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong, China* *[2]The Hong Kong Polytechnic University Shenzhen Research Institute, Shenzhen 518057, China*
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P6.03	**ICE24105**	**Optimal active damping of a wafer gripper in presence of multiple disturbances** Castor Verhoog[1], Marcin B. Kaczmarek[1], Maurits van den Hurk [2], S. Hassan Hossein-Nia[1] *[1]Department of Precision and Microsystems Engineering; Delft University of Technology, Mekelweg 2, 2628 CD Delft, The Netherlands* *[2]VDL Enabling Technologies Group B.V., De Schakel 22, 5651 GH Eindhoven, The Netherlands*
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P6.31	**ICE24307**	**Laser triangulation-based thermal characterization of machine tool spindles according to ISO 230-3** Matthias Geiselhart[1], Andoni Iribarren Indaburu[1,2], Pedro José Arrazola Arriola[2], Giuliano Bissacco[1] [1]*Technical University of Denmark, Department of Civil and Mechanical Engineering, Nils Koppels Allé B425, 2800 Kongens Lyngby, Denmark* [2]*Mondragon University, Faculty of Engineering, Loramendi Kalea, 4, 20500 Arrasate/Mondragon, Spain*