

1 TECHNICAL SESSIONS - POSTER

PS1- Science of Tribology & Lubrication and Lubricants & Tribology in Manufacturing

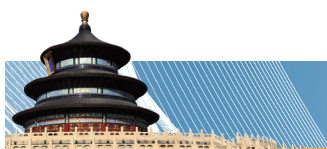
Time: 15:30 - 16:30, 19 September

Venue: Lounge Area, 2nd Floor

- 1 **Temperature of sliding contact between wire rope and friction lining**
Wan MA, A.A. LUBRECHT
Jiangsu Normal university, China; LaMCoS, INSA-LYON, UK
- 2 **A model of rubber friction considering the viscoelasticity of rubber materials**
Guangyu LEE, Xiangjun ZHANG, Robert WITTENBRINK, Jennifer ZHANG, Yonggang MENG
State Key Laboratory of Tribology, China; Exxon Mobil, USA
- 3 **Friction and wear behaviors of Ni-based solid-lubricating composites under high temperature coupled with vacuum environment**
Jun CHENG, Jun YANG, Weimin LIU
Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, China
- 4 **Friction behaviour and material characterisation of vulcanizates**
Dong WANG, Jem RONGONG, Matt CARRE, Lewis ROGER
Sheffield University, UK
- 5 **An original tribometer coupling a free-oscillation dynamic tribotest with a conventional linear reciprocating tribometer**
Amal HRIOUECH, Michel BELIN, Joel PERRET-LIAUDET, Maria-Isabel DE BARROS, Moussa DIABY
Ecole Centrale de Lyon, Université, de Lyon, France; Psa, Centre technique de Velizy, UK
- 6 **Molecular dynamics simulation of friction mechanisms of amorphous polyethylene**
Shengpeng ZHAN, Haitao DUAN, Jian LI
Wuhan Research Institute of Materials Protection, State Key Laboratory of Special Surface Protection Materials and Application, China
- 7 **Numerical simulation of the dynamic process of friction and wear of PTFE sliding against 45 steel by the discrete element method**
Ting XIE, Ya DING, Bang XIAO, Chenglong WANG
Hefei University of Technology, China
- 8 **Winding-in impact friction characteristics of wire rope in winding hoist**
Yuxing PENG, Shisheng SUN, Zhencai ZHU, Xiansheng GONG, Dagang WANG
School of Mechanical and Electrical Engineering, China University of Mining and Technology, China; Jiangsu Key Laboratory of Mine Mechanical and Electrical Equipment, China; China University of Mining and Technology, China; College of Mechanical Engineering, Chongqing University, China
- 9 **Thermal analysis of pad-disc contact in the high-speed train braking based on ANSYS**
Mingli ZHOU, Yongzhen ZHANG
Henan University of Science and Technology, China
- 10 **Harmonic and transient responses of damping bearing with different constraining layer**
Li HUANG, Jin YONG
Wuhan University of Technology, China
- 11 **Tribological properties of the in-situ synthesized Grapheme/ Nickel Composites**
Jinlong JIANG, Kaichen HE, Jinfang DU, Xianjuan PANG
Lanzhou University of Technology, China; Henan University of Science and Technology, China
- 12 **Analysis of statics of clamp band systems for spacecraft**
Xiaodong GUO, Junsen HOU, Xuefeng TAN, Jieliang ZHAO, Shaoze YAN
Tsinghua University, China
- 13 **Effects of surface defect on grease lubricated EHL point contact**
Chaolin PENG, Haiyan TANG, Xinglin LI
Chang'an University, China; Kunming University of Science and Technology, China; Hangzhou Bearing Test & Research Center, China
- 14 **Friction coefficient and friction reduction of rolling-sliding contact in mixed EHL**
Yali ZHANG, Zhiqiang WANG, Na QIN, Xiaogang ZHANG, Tonghai WU
Southwest Jiaotong University, China; School of Mechanical & Manufacturing Engineering, UNSW Australia, Australia; Xi'an Jiaotong University, China
- 15 **3D rough surface contacts with lubricant using the hybrid simulation method**
Jie ZHANG, Kiet TIEU, Guillaume MICHAL, Hongtao ZHU
School of Mechanical, materials and Mechatronic Engineering, University of Wollongong, Australia
- 16 **Film forming properties under unsteady thin film lubrication**
Weiwei WANG, Zhijun YAN, Jiujuan XU
Dalian Maritime University, China
- 17 **Analytical solution of elastic fluid dynamic lubrication**
Yi LOU, Huran LIU
zhejiang University of science and technology, China
- 18 **The test of high pure lubrication oil film by the principal of back cone**
Yi LOU, Huran LIU
zhejiang University of science and technology, China
- 19 **A contact angle hysteresis model based on the fractal structure of triple line**
Shuai WU, Ming MA
Tsinghua University, China
- 20 **Research on friction and wear properties of finger seal materials**
Hua SU, Shan SUN
Northwestern Polytechnical University, China
- 21 **Dry tribological behaviour of nanocrystalline metals and alloys**
Licai FU, Jun YANG, Weimin LIU
Hunan University, China; Lanzhou Institute of Chemical Physics, China
- 22 **A surface energy based wear model for tribological polymers**
Bo TAO, Jia ZENG, Xiaojun LIU, Kun LIU, Jiaxin YE
Institute of Tribology, School of Mechanical Engineering, Hefei University of Technology, China
- 23 **Surface energy and wear: an adhesive wear model**
Bo TAO, Jia ZENG, Xiaojun LIU, Kun LIU, Jiaxin YE
Institute of Tribology, School of Mechanical Engineering, Hefei University of Technology, China
- 24 **Wear behavior of Al₂O₃-Nb composites manufactured by SPS**
Aline Luísa BANDEIRA DOTTA, Ana Julia TERTULIANO, Izabel Fernanda MACHADO, Maria Cristina MORE FARIAS
Universidade de Caxias do Sul, Brazil; University of Sao Paulo, Brazil

2 TECHNICAL SESSIONS - POSTER

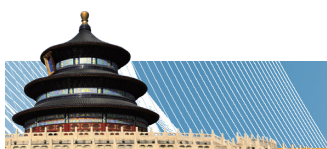
- 25 **Microstructure and tribological properties of 316L liquid phase sintered stainless steel with boron addition**
Francisco LANFERDINI SERAFINI, Marcele PERUZZO, Tanara DARIVA BEUX, Michell Felipe CANO ORDONEZ, Aline Luísa BANDEIRA DOTTA, Maria Cristina MORE FARIAS
Universidade de Caxias do Sul, Brazil; University of Sao Paulo, Brazil
- 26 **Effect of swelling on tensile properties and abrasion resistance of nitrile rubber with different acrylonitrile contents under water conditions**
Shuyuan SONG, Shijie WANG, Xiaoren LV
Shenyang University of Technology, China
- 27 **Test on wear rule of casing in deep wells and extended reach wells**
Erguo LIANG, Zhongmin WANG, Lei FU, Zifeng LI
Tianjin University of Technology and Education, China; College of Vehicles and Energy, Yanshan University, Qinhuangdao 066004, China
- 28 **Structure and function of PTFE/PEEK transfer film: molecular simulation and experimental investigations**
Tasuku ONODERA, Jun NUNOSHIGE, Kenji KAWASAKI, Koshi ADACHI, Kazue KURIHARA, Momoji KUBO
Hitachi, Japan; Graduate School of Engineering, Tohoku University, Japan; WPI Advanced Institute for Materials Research, Tohoku University, Japan; Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan; Institute for Materials Research, Tohoku University, Japan
- 29 **Computational multiscale modeling of the bipolar electrochemical process on the example of potential-controlled dodecyl sulfate ion adsorption at the aqueous solution – stainless steel interface**
Johannes Laurin HÖRMANN, Yonggang MENG
State Key Laboratory of Tribology, Tsinghua University, China; Technische Universität Berlin, Germany
- 30 **Tribochemical reaction dynamics of carbon nitride thin films by tight-binding quantum chemical molecular dynamics simulations**
Miho NAKAMURA, Seiichiro SATO, Yusuke OOTANI, Yuji HIGUCHI, Nobuki OZAWA, Koshi ADACHI, Momoji KUBO
Tohoku University, Japan
- 31 **Tribological properties and electrical characteristics of triboelectric nanogenerator**
Yanqiang HU
Beijing Institute of Technology, Beijing, China
- 32 **Effect of an electric field on friction of silicon rubber against copper in the glycerol**
Marek GLOGOWSKI, Juliusz B GAJEWSKI
Wroclaw University of Science and Technology, Poland
- 33 **Behaviour of soft nanoadditives under shear flow**
Yingying GUO, Luca DI MARE, Janet WONG
Imperial College London, UK
- 34 **Triboelectrification of Al₂O₃/PTFE composites sliding against 45 steel**
Ting XIE, Bang XIAO, Ya DING, Chenglong WANG
Hefei University of Technology, Anhui, China
- 35 **Rubber-ice friction mechanisms at the mesoscale**
Sylvain HEMETTE, Juliette CAYER-BARRIOZ, Denis MAZUYER
Ecole Centrale de Lyon, Laboratoire de Tribologie et Dynamique des Systèmes, France; Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan
- 36 **On the thermodynamics of running-in**
Hisham ABDEL-AAL
Drexel University, USA
- 37 **Investigation on impact resistance of CFRP laminate under cycling low kinetic energy**
Yang SUN, Zhen-bing CAI, Song-bo WU, Min-hao ZHU
Southwest Jiaotong University, China
- 38 **Polytetrafluoroethylene self-assembly coating used in industrial flue gas filtration material**
Chuan DU, Jiadao WANG, Xiaohong LIU, Tengfei WU
Tsinghua University, China; Tianjin Research Institute for Advanced Equipment, China
- 39 **Sliding friction of fully hydrogenated DLC surfaces using molecular dynamics**
Hirotohi AKIYAMA, Hitoshi WASHIZU
University of Hyogo, Japan
- 40 **Nano-scale wear characteristics of polymeric materials**
Dong-gap SHIN, Dae-Eun KIM
Department of Mechanical Engineering, Yonsei University, Korea
- 41 **Quantum chemical calculations, synthesis, physicochemical properties and nanotribology of copper and argentine clusters**
Andrey KUZCHAROV, Aleksey MILOV, Yulia GERASINA
Don State Technical University, Russia; Southern Research Center of the Russian Academy of Sciences, Russia
- 42 **Molecular dynamics simulation of wetting behavior of a droplet on carbon-nanotubes**
Awais MAHMOOD, Jiadao WANG, Shuai CHEN
Tsinghua University, China; Institute of High Performance Computing, Singapore
- 43 **Numerical experiments on the dynamics of sheared and pulled-off single asperity and the origin of sliding friction**
Ryosuke MINAMI, Hiroshi MATSUKAWA
Aoyama Gakuin University, Japan
- 44 **Understanding of effects of defect in graphite on tribological properties**
Tianying DUAN, Wen YUE, Qunyang LI
China University of Geosciences, Beijing, China; Tsinghua University, Beijing, China
- 45 **The influence of surface chemistry and nanoscopic roughness on the frictional properties of MoS₂ nanosheets**
Zhuotong LIU, James BATTEAS
Texas A&M University, USA
- 46 **How interface interaction influences tribology behavior of two layers graphene with hydroxyls**
Rui LI, Yang CHENG, Chao WU
University of Science and Technology Beijing, China
- 47 **Tribological properties and synergistic effects between stearic acid-modified nano-TiO₂ particles and sulfurized isobutene**
Jiawei SHEN
Shanghai Advanced Research Institute, Chinese Academy of Sciences, China
- 48 **Nanosliding of a Si₃N₄ tip on an oscillating substrate**
Masaru SUZUKI, Tatsuro SUZUKI, Junko TANIGUCHI, Naruo SASAKI, Makoto ISHIKAWA, Kouji MIURA
University of Electro-Communications, Japan; Aichi University of Education, Japan



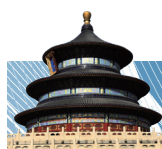
3 TECHNICAL SESSIONS - POSTER

- 49 **Nanotribological behavior of nanopatterned multilayer MoS₂**
Qian WU, Ming ZHOU
Tsinghua University, China
- 50 **Theoretical study of surface interaction force considering one-dimensional periodic material distribution**
Hiroshige MATSUOKA, Toshiki OTANI, Takeshi HIKOSAKA, Satoru MAEGAWA, Shigehisa FUKUI
Tottori University, Japan
- 51 **Atomic-scale friction and superlubricity in two-dimensional materials: the first-principles calculations**
Linfeng WANG, Tianbao MA, Yuanzhong HU, Hui WANG
Nanjing University of Aeronautics and Astronautics, China; Tsinghua University, China
- 52 **In-situ formation of MoS₂ nano-onions acting as rollers in macroscale superlubricity**
Kaiming HOU, Jinqing WANG, Shengrong YANG
Lanzhou Institute of Chemical Physics, China
- 53 **Solutions and algorithm for two-dimensional friction problems**
Xiaosun WANG, J.R. BARBER
Wuhan University, China, University of Michigan, Ann Arbor, USA
- 54 **Modeling of hysteresis nonlinear for bolted joints**
Ling LI
Xi'an University of Architecture and Technology, China
- 55 **Relationship between micro-abrasive wear modes and contact stresses: experimental tests and CAE simulations for AISI H10 tool steel**
Ronaldo COZZA, Gustavo DONATO
University Center of FEI – Educational Foundation of Ignatius “Padre Saboia de Medeiros”, Brazil
- 56 **Changing rule of cutting force in high speed milling of CFRP**
Zhichao WANG
Fuzhou University, China
- 57 **Cyclic tangential loading of a power-law hardening elastic-plastic spherical contact in pre-sliding stage**
Bin ZHAO, Xiqun LU
Harbin Engineering University, China
- 58 **Influence of copper surface morphology on hardness and elastic modulus of micro indentation test with different indenters**
Haosheng PANG, Chenghui GAO, Ming LIU
Fuzhou University, China
- 59 **In-Situ optical tribometry of subsurface crack propagation under sliding herzian contact**
Haiyang ZHANG, Bo TAO, Jia ZENG, Xiaojun LIU, Kun LIU, Jiaxin YE
Institute of Tribology, School of Mechanical Engineering, Hefei University of Technology, China
- 60 **The effect of different load and loading rate on the VonMises equivalent stress of the contact rough body of the base end of micro-cantilever**
Jianmeng HUANG, Lei MIN, Yuchen DAL, Hang ZHANG, Huikai GAO
Fuzhou University, China
- 61 **Theoretical investigation on wear-resistance mechanism for shape memory alloy**
Xiang CHEN, Yang ZHAO, Sheng LU, Rui LI, Xianghe PENG
Institute of Advanced Manufacturing Engineering, Chongqing University of Posts and Telecommunications, China; School of Aeronautics and Astronautic, Chongqing University, China
- 62 **Experimental investigation of oblique collision for robotic two-link manipulator with friction**
Yuahang ZHAO, Yunian SHEN
Nanjing University of Science and Technology, China
- 63 **Transient dynamic computation of frictional contact-impact of flexible robotic two-link manipulator**
Wei WANG, Yunian SHEN
Nanjing University of Science and Technology, China
- 64 **Cancelled**
- 65 **Research on lubrication properties of liquid metal: Ga_{0.64}In_{0.24}Sn_{0.12} alloy**
Aijie XU
Department of Mechanical Engineering, Tsinghua University, China
- 66 **Experimental estimation of viscous and inertial coefficients in the formula of pressure drop for the water flow through the spherical particles layer**
Emir TAIROV, Polina KHAN, Svetlana BYKOVA
Melentiev Energy Systems Institute, Siberian Branch of the Russian Academy of Sciences, Russia
- 67 **Research on rheological and tribological properties of lithium grease containing nano silica**
Jianping LIU, Hong CHEN
Shandong university of technology, China
- 68 **Behaviour of grease EHL films at very low speed**
Hiroshi NISHIKAWA, Naoya IKEDA
Kyushu Institute of Technology, Japan
- 69 **High temperature self-lubricating materials**
Shengyu ZHU, Jun YANG, Jun CHENG
Lanzhou Institute of Chemical Physics, China
- 70 **Research on mechanical mechanism of shear dilatancy for granular flow lubrication**
Fanjing MENG, Kun LIU, Wei WANG
Hubei University of Arts and Science, China; Hefei University of Technology, China
- 71 **Development and application of environmentally friendly high performance semi-synthetic cutting fluid**
Hongqi XIONG
Guangzhou Mechanical Engineering Research Institute Co.Ltd., China
- 72 **Infiltration mechanism and sliding friction and wear behavior of Al₂O₃/HSS self-lubrication composites fabricated by vacuum pressure infiltration process**
YanJun WANG, Shouren WANG, Liying YANG, Gaoqi WANG, Xuefeng YANG
University of Jinan, China
- 73 **Synthesis and investigation of tribological behavior of nano-WS₂ partticles**
Na WU, Ningning HU, Songquan WANG
China University of Mining and Technology, China; JiangSu Normal University, China
- 74 **Tribological properties of Ni-based plasma sprayed coating with different silver content at wide temperature**
Hang LI
Nanjing University of Science and Technology, Nanjing, China

- 75 **Elastohydrodynamic lubrication of bearings in cooling circuit of lead-bismuth based reactor**
Jiaqi SUN, Xuanyu SHENG, Yachen XU
Tianjin Research Institute for Advanced Equipment, Tsinghua University, China; Tsinghua University, China
- 76 **Anti-wear properties of WS₂ nanoparticles at low concentrations**
Shizhao YANG, Jiangqiang HU, Feng XIE, Li GU
Air Force Logistics College, China
- 77 **Loading characteristics of spherical bearings with elastic deformation**
Shengdong ZHANG, Guangming LI, Xiuying YANG, Boying WU, Yiji HUANG
Jiujiang University, China; Wuhan University of Technology, China
- 78 **Elastohydrodynamic lubrication with oil droplets**
Shuyi LI, Feng GUO, Xinming LI, Chenglong LIU
Qingdao university of Technology, China
- 79 **The identification of lubrication state of inner ring and roller element under sliding condition**
Zhihe DUAN, Tonghai WU, Shuaiwei GUO, Tao SHAO, Yanwen HUO
Xi'an Jiaotong University, China
- 80 **Analysis of lubrication with 3D textured surface based on CFD**
Yang ZHAO, Heng LIU, Mingqing JING
Xi'an Jiaotong University, China
- 81 **In-situ study of the distribution of the lubricant additives in the contact area**
Shaohua ZHANG, Yuhong LIU, Tao QING
Beijing Institute of Control Engineering, China; Tsinghua University, China
- 82 **Modification and evaluation of novel functional polyalphaolefin (PAO) using as additive in lubricant**
Jiusheng LI, Xuzhi XUE, Jian XU, Tianhui REN
Shanghai Advanced Research Institute, Chinese Academy of Sciences, China; Shanghai Jiao Tong University, China
- 83 **A safe and environmentally friendly lubricants**
zhuojun CHEN, Yingliang WU
Shenyang Ligong Uiversity, China
- 84 **Study on the tribological properties of naphthylacetic acid ionic liquid lubricant**
wenjing SUN, Chaoyang ZHANG, Shuai ZHANG, Rui DONG, Mingjin FAN, Desuo YANG
Baoji University of Arts and Sciences, China
- 85 **Investigation on the friction characteristics and the lubrication states transition for water lubricated plain journal bearing**
Zhongliang XIE, Zhushi RAO, Na TA
Shanghai Jiao Tong University, China
- 86 **Fundamental and Tribological Properties of Thick CPB**
Keisuke SATO, Hikaru OKUBO, Yuki HIRATA, Chiharu TADOKORO, Tomoya FUJIMORI, Ken NAKANO, Yoshinobu TSUJII, Shinya SASAKI
Tokyo University of Science, Japan; Graduate School of Tokyo University of Science, 6-3-1 Niijyuku, Katsushika-ku, Tokyo, Japan; Saitama University, 255 Shimo-Okubo, Sakura-ku, Saitama-shi, Saitama, Japan; Kyoto University for Chemical Research, Gokasho, Uji-shi, Kyoto, Japan; Yokohama National University, 79-1 Tokiwadai, Hodogaya-ku, Yokohama-shi, Kanagawa, Japan
- 87 **The action mechanism and regularities of the additive for friction-increasing grease**
Yi LIU, Xiangjun ZHANG, Huan LIU, Haoda JING, Simo MAKIMATTILA
Tianjin Research Institute for Advanced Equipment, Tsinghua University, China; Tsinghua University, China; KONE, Poland
- 88 **Enzymatic oligomerization of p-methoxyphenol and phenylamine providing poly (p-methoxyphenol-phenylamine) with improved antioxidant performance in ester oils**
Shengmao ZHANG, Changqing MIAO, Zhijun ZHANG, Pingyu ZHANG
Henan University, China
- 89 **Tribology mechanism study of Cu nano-additives in DLC-based solid-liquid synergetic system**
Yujuan ZHANG, Yaohui LIU, Shengmao ZHANG, Pingyu ZHANG
Engineering Research Center for Nanomaterials, China; Collaborative Innovation Center of Nano Functional Materials and Applications of Henan Province, Henan University, China
- 90 **Study on thermogravimetry property and lubricating behavior of lathanump perrenate as oil additive in a wide temperature range**
Junhai WANG, Sihan HOU, Yang LIU, Deli DUAN, Shu LI
Institute of Metal Research, Chinese Academy of Sciences, China; School of Mechanical Engineering, Shenyang Jianzhu University, China
- 91 **Study on the antiwear properties and synergistic antioxidation of titanate with amine antioxidants in lubricants**
Jianqiang HU, Jianjian ZHANG, Xin XU, Shizhao YANG, Feng XIE
Department of Aviation Oil and Material, Air Force Logistics College, China
- 92 **On the dispersion of biodiesel soot and its influence on the tribological behaviour of liquid paraffin**
Chuan LI, Ruhong SONG, Bingxun YANG, Tianxia LIU, Xianguo HU
Hefei University of Technology, China
- 93 **All-atom molecular dynamics study of absorbing process of organic monolayers**
Masakazu KONISHI, Hitoshi WASHIZU
University of Hyogo, Japan
- 94 **Preparation of water-soluble Cu nanoparticle surface-capped by polyethylene glycol xanthate and evaluation of their tribological properties**
Yan WANG, Chunli ZHANG, Shengmao ZHANG, Pingyu ZHANG
National & Local Joint Engineering Research Center for Applied Technology of Hybrid Nanomaterials, Henan University, China
- 95 **Preparation of oil-soluble copper nanoparticles for lubricant applications**
Yanhong LI, Shengmao ZHANG, Pingyu ZHANG
National & Local Joint Engineering Research Center for Applied Technology of Hybrid Nanomaterials, Henan University, China
- 96 **Antimicropitting investigation of four EP&AW additive containing phosphorus**
Jiping ZHANG, Peng WANG, Yuanjing DAI, Chenhui ZHANG
Tianjin Research Institute for Advanced Equipment, Tsinghua University, China; Tsinghua University, China; PetroChina Lanzhou Lubricating Oil R&D Institute, China



- 97 **Synthesis of size-controlled Ag₂S nanoparticles by solventless thermolytic method and their tribological properties as lubricating oil additive**
Chunli ZHANG, Shengmao ZHANG, Pingyu ZHANG
National & Local Joint Engineering Research Center for Applied Technology of Hybrid Nanomaterials, Henan University, China
- 98 **Observation of tribofilm growth and friction coefficient microscopy of tribofilms**
Sora SHIODE, Renguo LU, Hiroshi TANI, Norio TAGAWA, Shinji KOGANEZAWA
Kansai University, Japan
- 99 **Optimized characterization of lubricant (ISO VG 68) with titanium oxide by response surface methodology (RSM)**
Nor Syahirah MOHAMAD, Salmiah KASOLANG
Tribology Research Group, Faculty of Mechanical Engineering, Universiti Teknologi MARA, 40450 Shah Alam Selangor, Malaysia; Faculty of Mechanical Engineering, Malaysia; Universiti Teknologi MARA, 40450 Shah Alam Selangor, Malaysia
- 100 **Synthesis of carbon spheres and its size dependent water based lubrication**
Guanggui CHENG, Jianning DING, Noshir.S PESIKA, Ying WANG
Jiangsu University, China, Changzhou University, China; Tulane University, USA
- 101 **The study of WS₂ nanoparticles anti-wear and friction reducing properties in the persence of ZDDP additive**
Ningning HU
Jiangsu Normal University, China
- 102 **Antioxidant synergistic effects of environment friendly additive bismuth naphthenate**
Xin XU, Jianqiang HU, Yunyun XU, Yumei WANG
Air Force Logistics College, China
- 103 **Study on the tribological properties of the mixed system of molybdenum dialkyldithio carbamate combining with metal detergent**
Liping WANG, Guangneng DONG, Jinbao XU, Dongya ZHANG, Youbai XIE
PetroChina Lanzhou Lubricating Oil R & D Institute, Lanzhou, China; Key Laboratory of Education Ministry for Modern Design & Rotor-Bearing System, Xi'an Jiaotong University, Xi'an, China; School of Mechanical and Precision Instrument Engineering, Xi'an University of Technology, China
- 104 **Lubricating performance of phytic acid as a water-based lubricant additive in Si₃N₄-copper sliding contact**
Yong WAN, Yankun YU, Shuai GAO, Qi CJEN
Qingdao University of Technology, China
- 105 **Investigation of effect of super-hydrophobic MoS₂/TiO₂ on paraffin**
Leihua XU, Mei LENG, Dekun ZHANG
China University of Mining and Technology, China
- 106 **Graphene-based engine oil**
Shanhong WAN, Yana XIA, Kiet TIEU, Hongtao ZHU, Bach H. TRAN, Shaoqiang CUI
University of Wollongong, Australia
- 107 **CO₂ influence on amino acid based ionic liquids as lubricating additives**
Jian WU, Xiang YIN, Xiaohua LU, Xin FENG, Yijun SHI
Luleå, University of Technology, Sweden; State Key Laboratory of Materials-oriented Chemical Engineering, Nanjing Tech University, Nanjing 210009, China
- 108 **Tribological properties of biological lubricating greases of lard and tallow**
Juozas PADGURSKAS, Raimundas RUKUIZA, Arturas KUPČINSKAS, Raimondas KREIVAITIS
Aleksandras Stulginskis University, Lithuania
- 109 **Analysis of tool wear mechanism in high-speed milling of carbon fiber reinforced polymer**
Youxi LIN, Zhiying REN
Fuzhou University, China
- 110 **Analysis of tool wear mechanism and wear form in high-speed milling of carbon fiber reinforced polymer**
Hua LIN, Youxi LIN, Longyi JIAN
Fuzhou University, China
- 111 **Effects of carbon nanotubes on the friction characteristics of Al₂O₃/TiC ceramic conical die composite**
Xuefeng YANG
School of Mechanical Engineering, University of Jinan, China
- 112 **Tool wear in dry and wet turning**
Joanna KOWALCZYK, Stanisław PLAZA, Łukasz NOWAKOWSKI, Monika MADEJ, Dariusz OZIMINA
The Kielce University of Technology, Poland; University of Lodz, Poland
- 113 **Study on tool wear in Ti₆Al₄V drilling and cutting parameter optimization**
Xiaoqin WANG, Shouren WANG, Xiuli FU, Yongzhi PAN, Jun ZHAO
University of Jinan, China; Shandong University, China
- 114 **Friction torque performance reliability prediction for thin walled angular contact ball bearing**
Hui DU
Henan University of Science and Technology, China
- 115 **Creep behaviors and microstructure of babbitt alloy SnSb₁Cu₆**
Jianmei WANG, Fanning MENG, Yawen XUE
School of mechanical engineering, Taiyuan University of Science and Technology, China
- 116 **Finite element simulation of two-dimensional high speed cutting considering the rough surface of the tool corner**
Lei MIN
Fuzhou University, China
- 117 **Mechanical behavior of confined granules in manufacturing interface**
Wei WANG, Shuqing HOU, Kun LIU
Hefei University of Technology, China
- 118 **The research on creeping phenomenon in the process of metal plastic forming based on powder lubrication**
Yi ZHANG, Wei WANG, Kun LIU
Institute of Tribology, Hefei University of Technology, China
- 119 **Galling behavior in deep drawing process with advanced high strength steel sheet**
Wenzheng DONG, Junjie WEN, Ling XU, Qiquan LIN
Xiangtan University, China
- 120 **Investigation of copper and titanium synergistic removal in TSV CMP**
Can RAO, Tongqing WANG, Jie CHENG, Yuhong LIU, Xinchun LU
State Key Laboratory of Tribology, Tsinghua University, China

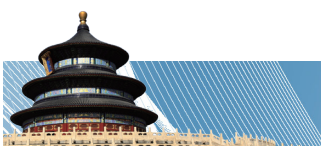


- 121 **Study on simultaneous removal of silicon/copper hybrids using SiO₂ abrasive with different functional groups in chemical mechanical polishing**
Gaopan CHEN, Tongqing WANG, Guoshun PAN, Yuhong LIU, Minmin GU
Research Institute of Tsinghua University in Shenzhen, China; State Key Laboratory of Tribology, Tsinghua University, China; Guangdong Provincial Key Laboratory of Optomechatronics, China
- 122 **Molecular dynamics simulation of abrasive water jet**
Ruling CHEN
College of Mechanical Engineering, Donghua University, China
- 123 **The behavior of slurry additives during the removal of heterogeneous**
BingQuan WANG
Department of Mechanical Engineering, Tsinghua University, China
- 124 **The recent techniques in free-form surface registration**
Ding SHEN, Youxi LIN
Fuzhou University, China
- 125 **Friction and wear behavior of phenolic resin binder during fixed-abrasive polishing**
Zhe WU
Hefei University of Technology, China
- 126 **Experimental study on surface quality in elasticity ball-end grinding of M330 steel**
Xiaojun WU, Tianze ZHOU, Zhixue TONG
School of Mechanical and Electrical Engineering, Xi'an University of Architecture and Technology, China
- 127 **Tool wear behavior in high speed milling of carbon fiber-reinforced plastic**
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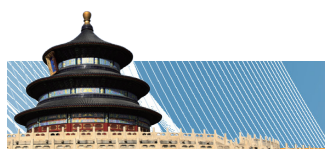
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Auburn University, USA; Bruker Nano Surfaces Division, USA; RSC Bio Solutions, USA; Alto Products Corp., USA



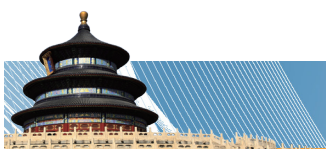
PS2-Wear & Surface Engineering & Biotribology & Biomimetics & Industrial Tribo-systems & Tribotest and Monitoring & Forum of Young Tribologists-Organized by CTI & STLE
Time: 15:30 - 16:30, 20 September
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Youqiang ZHANG, Yonggang MENG
State Key Laboratory of Tribology, Tsinghua University, Beijing 100084, China
- 164 **Analysis of wear mechanism evolvement of the rolling die material on the basis of ring-block test**
G. BIAN^{1,2}, M. CHENG¹, Y. LIU¹, S.H. ZHANG¹
¹Institute of Metal Research, Chinese Academy of Sciences, Shenyang, 110016, China; ²School of Materials Science and Engineering, University of Science and Technology of China, Hefei 230026, PR China
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China Three Gorges University, 8 University Avenue, Yichang, Hubei 443002, China
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Lihe GUO
Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, No.18, Tianshui Middle Road, Lanzhou, China
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AECC Harbin Bearing co.Ltd, China; Liaoning University of Technology, China
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Federal University of Rio Grande, Brazil; Federal University of Pampa, Brazil; Federal University of Pelotas, Brazil

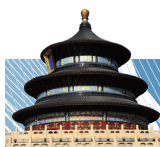
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¹*Department of engineering Science, Nanjing University of Science and Technology, Nanjing, China;* ²*Department of Mechanical Engineering, University of California, Berkeley, USA*
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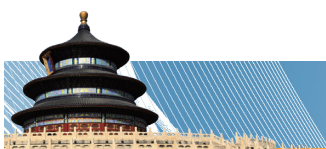
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¹Faculty of IndustrialEngineering, Tribology Center, Technical University – Sofia, 8 Kl. OhridskiBlvd, 1000 Sofia, Bulgaria, E-mail: kandevam@gmail.com; ²Institute for Information and CommunicationTechnologies, Bulgarian Academy of Sciences, Bulgaria, dimikara@abv.bg; ³SciBuCom 2 Ltd., P.O.Box 249, 1113Sofia, Bulgaria kalitchin@gmail.com; ⁴Faculty of MechanicalEngineering, Brno University of Technology, 2 Technicka,616 69 Brno, Czech Republic, E-mail: Petr.Svoboda@vut.cz
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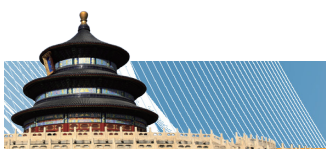
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