

CSI XLIII (43rd CSI) & ASLIBS2023

Colloquium Spectroscopicum
Internationale XLIII

The 5th Asian Symposium
on Laser Induced
Breakdown Spectroscopy

June 26-30, 2023 - Tokushima Japan

Poster Session 1 (CP-01~16:CSI, AP-01~21, 45: ASLIBS) : Tuesday 27th 9:20-18:30

Poster Session 2 (CP-17~31:CSI, AP-22~44: ASLIBS) : Wednesday 28th 9:20-18:30

Intensive Discussion : 16:30-18:30

Poster Board : W0.9m×H1.8m

Tuesday 27th

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| CP-1 | <u>Shigeru Suzuki</u> , Michihisa Fukumoto, Kano Nakajima, Susumu Imashuku | Analysis of Structural Isomers of Alumina Formed by Oxidation of Fe-Cr-Al Alloys |
| CP-2 | Vanessa Antunes, Sara Valadas, Miriam Pressato, António Candeias, José Mirão, Ana Cardoso, Maria L. Carvalho, <u>Sofia Pessanha</u> | The Evolution of Still Lifes in Earth Materials: From Baltazar Gomes Figueira to Josefa d'Óbidos |
| CP-3 [ST] | <u>Ioana Maria Cortea</u> , Luminița Ghervase, Monica Dinu, Ovidiu Țentea | Detectability of ancient organic compounds in various archaeological artefacts via combined non- and minimally-invasive mobile spectroscopic techniques |
| CP-4 [ST] | <u>Ioana Maria Cortea</u> , Alecsandru Chiroșca, Laurențiu Angheluță | INFRA-ART: An open-access integrated spectral library of art related materials for enhanced accessibility in cultural heritage science |
| CP-5 | <u>Yuhei Yamamoto</u> , Shun-ichi Tokoro, Ryosuke Murase, Ryoichi Nakada, Kazuya Nagaishi, Shoji Imai | Application of MC-ICP-MS with solid extraction method using chelate column for trace lead isotopes in wet depositions |
| CP-6 [ST] | <u>Chihiro Akiba</u> , Manae Yamasaki, Yunhao Hu, Shinsuke Kunimura | Gold nanostructures produced by low-temperature heating of the dry residue of a droplet of a solution of HAuCl ₄ for surface-enhanced Raman scattering analysis |
| CP-7 | <u>Yasuji Muramatsu</u> , Yoshito Kashitani, Arisa Une | Characterization of melem (2,5,8-triamino-heptazine) by soft X-ray absorption/emission spectroscopies and theoretical analysis |
| CP-8 | <u>Milan Svoboda</u> , Stanislav Musil, Jan Kratzer | In-atomizer trapping of cadmium and selenium in novel designs of dielectric barrier discharge plasma atomizers |
| CP-9 | George A. Pitsevich, Alex E. Malevich, <u>Alexander A. Kamnev</u> | How symmetry helps to improve the estimation of the hyperfine splitting of vibrational levels due to tunneling. The case of the HSOSH and HOSOH molecules |
| CP-10 [ST] | <u>Ikuya Shimogaki</u> , Yasuji Muramatsu | In-situ XANES measurements of thermal denaturation of proteins in eggs |
| CP-11 [ST] | <u>Rihoko Miyazaki</u> , Yuya Akahane, Shinsuke Kunimura | Total reflection X-ray fluorescence analysis of the dry residue of a large volume droplet of a water sample |
| CP-12 [ST] | <u>Atitiaya Suratsawadee</u> , Atitaya Siripinyanond, Jitapa Samranjit | Use of SP-ICP-MS for the study of parameters affecting sensing performance of gold nanoparticles as colorimetric sensor for lead detection |
| CP-13 | <u>Susumu Imashuku</u> | In situ determination of the compositions of Ni-Cu film during sputtering process |
| CP-14 [ST] | <u>Yuki Tada</u> , Yoshihiro Deguchi, Takahiro Kamimoto | Research on high-sensitivity NH ₃ measurement technique using CT Tunable diode laser absorption spectroscopy |

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| CP-15 | <u>Ciro Eliseo Márquez Herrera</u> , Reina Elizabeth Haro Torralba, Ana Larissa Barbosa Sánchez, Leticia Hernández Cadena, Octavio Gamaliel Aztatzi Aguilar, Ma. de Lourdes Guadalupe Flores Luna, Martha Patricia Sierra Vargas, Consuelo Escamilla Núñez | Trace elements analysis in pleural fluid from patients in Meexico city using ICPMS |
| CP-16 [ST] | <u>Yushi Yoshioka</u> , Daichi Takagoshi, Harunobu Takeda, Hiroaki Yoshioka and Yuji Oki | Anisotropic scattering properties of micro-/nano-foamed PDMS |
| AP-1 | <u>Yuanchao Liu</u> , Muhammad Shezad Khan, Irfan Ahmed, Condon Lau | Insertable, scabbarded, and nano-etched silver needle biosensor for hazardous elements depth profiling using laser-induced breakdown spectroscopy |
| AP-2 [ST] | <u>Jiacen Liu</u> , Weiran Song, Weilun Gu, Zhe Wang | Long-term repeatability improvement using beam intensity distribution for laser-induced breakdown spectroscopy |
| AP-3 [ST] | <u>Zhongqi Feng</u> , Dacheng Zhang, Hanxing Ge, Yulu Ba, Jiajia Hou, Lei Zhang | The LIBS signal enhancement of multiple lines from multiple elements by femtosecond supercontinuum laser |
| AP-4 [ST] | <u>Yuzhou Song</u> , Weiran Song, Liang Li, Weilun Gu, Kaikai Kou, Muhammad Sher Afgan, Zongyu Hou, Zheng Li, Zhe Wang | Flame-assisted plasma modulation to improve the raw signal quality for laser-induced breakdown spectroscopy |
| AP-5 | <u>Weiliang Wang</u> , Yuanchao Liu, Siyi Xiao, Lianbo Guo | Stable sensing platform for diagnosing electrolyte disturbance using laser-induced breakdown spectroscopy |
| AP-6 [ST] | <u>XueChen Niu</u> , Feiyu Gan, Deng Zhang, Lianbo Guo | A spectral stability correction method based on plasma image affected by laser energy fluctuation in laser-induced breakdown spectroscopy |
| AP-7 [ST] | <u>Tong Chen</u> , Lanxiang Sun | Online Fe grade monitoring of iron ore slurry by Morse wavelet transform and lightweight convolutional neural network based on LIBS |
| AP-8 | <u>Wenhao Yan</u> , Jiixin Lv, Chenwei Zhu, Qingzhou Li, Ji Chen, Lizhu Kang, Bing Lu, Xiangyou Li | A high-stability laser induced breakdown spectroscopy detection based on Bessel beam |
| AP-9 [ST] | <u>Weizhe Ma</u> , Shunchun Yao, Ziyu Yu, Qi Yang | Development of a LIBS-NIRS tandem detection system in coal analysis |
| AP-10 [ST] | <u>Ziyu Yu</u> , Shunchun Yao, Qi Yang | Study on plasma morphology variation in laser-induced breakdown spectroscopy analysis of particle flow |
| AP-11 | <u>Shengqun Shi</u> , Honghua Ma, Dengzhang, Lianbo Guo | LIBS for Accurate Qualitative and Quantitative Analysis of Brown Rice Flour Adulteration |
| AP-12 [ST] | <u>S. Atikukke</u> , S.J. Shetty, W. Khan, P. Ďurina, T. Roch, P. Dvořák, E. Grigore, F. Baiasud, P. Veis | Depth Analysis of WTa-D/Mo sample by Resonant-Laser Induced Breakdown Spectroscopy |
| AP-13 [ST] | <u>Hanbeom Choi</u> , Hyang Kim, Sang-Ho Nam, Song-Hee Han, Yonghoon Lee | Collecting dry residues in the laser-produced micro-trenches on the silicon wafer for sensitive laser-induced breakdown spectroscopy analysis of bio-fluids |
| AP-14 [ST] | <u>A. N. Wangeeci</u> , D. Adén, M. H. Greve, M. A. Knadel | Predicting texture and soil organic carbon in European soils using laser-induced breakdown spectroscopy |
| AP-15 | Hanyun Li, Denghong Zhang, Hengli Qian, <u>Weiwei Han</u> , Duixiong Sun | Analysis of mural pigments based on LIBS and Raman technology |
| AP-16 | <u>Weiwei Han</u> , Duixiong Sun, Guoding Zhang, Guanghui Dong, Maogen Su | Single-Point and Multi-Point Quantitative Analysis in Aluminum Alloy Samples Using LIBS |
| AP-17 | Peng Zhao, <u>Weiwei Han</u> , Duixiong Sun, Guoding Zhang, Maogen Su | Application of LIBS spectral data fusion in quantitative analysis of Astragalus |

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| AP-18 | Yaopeng Yin, <u>Duixiong Sun</u> , Weiwei Han, Zongren Yu | Application of LIBS technique in Analyzing of Wall Paintings in Dunhuang Mogao Grottoes |
| AP-19 [ST] | <u>Kou Kaikai</u> , Song Weiran, Hou Zongyu, Wang Zhe | Quantitative combustion diagnosis by laser induced breakdown spectroscopy: effect of temperature |
| AP-20 [ST] | <u>Kaifan Zhang</u> , Zongyu Hou, Zhe Wang | Effect of spatio-temporal windows for spectral collection on laser-induced breakdown spectroscopy (LIBS) signal at different pressures |
| AP-21 [ST] | <u>Qi Yang</u> , Shunchun Yao, Weizhe Ma, Ziyu Yu | LIBS raster scanning analysis for aluminium alloy classification using a fiber-Nd:YAG orthogonal dual-pulse system |
| AP-45 [ST] | <u>Junxiao Wang</u> , Lei Zhang, Wangbao Yin | Theoretical study on signal enhancement of orthogonal double pulse induced plasma |
| Wednesday 28th | | |
| CP-17 | <u>Aichara Limsakul</u> , Anongnad Teprak, Aitaya Siripinyanond, Juwadee Shiowatana | Development of a test kit for chromium determination in water |
| CP-18 | <u>Shigeru Suzuki</u> , Yuta Uemura, Kozo Shinoda, Shigeo Sato | Characterization of structure changes in stress-induced martensitic transformation and shape memory properties of Fe-Mn-Si alloys |
| CP-19 | <u>Hiroyuki Nakata</u> | The pH Response of Excitation-Emission Features in Fluorescein |
| CP-20 | <u>Shintaro Ichikawa</u> , Yuta Ishikake, Yukiko Nishi, Satoshi Kawata, Hirofumi Yamakawa, Tsutomu Kurisaki | Characterization of iron sands around Mt. Aburayama (Fukuoka, Japan) by XRF, XRD, and Mössbauer spectroscopy |
| CP-21 [ST] | <u>Shunya Inamoto</u> , Yoshinari Abe, Akiko Hokura, Emiko Harada, Michio Suzuki | Distribution and chemical speciation of manganese in freshwater pearls by synchrotron radiation X-ray analyses |
| CP-22 [ST] | <u>S. Ozeki</u> , R. Kato, T. Tanaka, T. Yano | Surface-enhanced Raman spectroscopy of odor molecules using graphene-based plasmonic nanostructures |
| CP-23 [ST] | <u>Masato Tokoro</u> , Yu Imamura, Kazuhiro Kumagai, Akiko Hokura | Synchrotron X-ray analyses reveal the mechanism of Pt uptake in unicellular algae |
| CP-24 [ST] | <u>Tatsuya Fukuta</u> , Ryo Kato, Takuo Tanaka, Taka-aki Yano | Highly sensitive fluorescence spectroscopy using high-index dielectric nanoparticles |
| CP-25 | <u>Hirofumi Yamamoto</u> , Yuichiro Saito, Kazuo Taniguchi, Akira Yoshikawa | The measurement of Beta rays assuming discharge of ALPS treated water into the sea at Fukushima Daiichi Nuclear Power Plant |
| CP-26 | <u>Akira Kuwahara</u> , Kenta Murakami, Hideki Tomita, Youichi Enokida | Spectroscopic signatures of uranium atoms in laser ablation plasma plume under a high vacuum ambience |
| CP-27 | <u>Toshitsugu Marushima</u> | Imaging Application using Raman Spectroscopy for Life Science |
| CP-28 [ST] | <u>Naoki Daigo</u> , Tomomi Iihara, Kozue Takano, Yuki Ito, Kazunari Maki, Shigeru Suzuki, Shigeo Sato | Effect of alloying elements on dislocation evolution in highly deformed copper alloys |
| CP-29 [ST] | <u>Seiichi Karasawa</u> , Kana Baba, Yusuke Onuki, Yuma Nagaoka, Masato Ito, Shigeru Suzuki, Shigeo Sato | Observation of dislocation evolution in Cu-Zn alloys during high-temperature deformation by using neutron diffraction |
| CP-30 [ST] | <u>Kana Baba</u> , Kazuhiro Mizusawa, Kozue Takano, Tomomi Iihara, Yuki Ito, Kazunari Maki, Shigeru Suzuki, Shigeo Sato | Variations in stress relaxation of kinds of alloying elements in solid-solution copper alloys |
| CP-31 | <u>Stefano Legnaioli</u> , Beatrice Campanella, Susanna Monti, Vincenzo Palleschi, Francesco Poggialini, Giovanna Costanzo | Spectroscopic characterization of prebiotic molecules |

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| AP-22 | <u>Tianzhong Luo</u> , Mengyu Bao, Geer Teng, Xiangjun Xu, Kai Wei, Zhifang Zhao, Yongyue Zheng, Bingheng Lu, Qianqian Wang | Identification of three kinds of Mutong medicinal materials based on laser-induced breakdown spectroscopy |
| AP-23 | <u>Takahiro Karino</u> , Katsuaki Akaoka, Hironori Ohba, Ikuo Wakaida, Joey Kim Soriano, Yuji Ikeda | Uranium isotope measurement by microwave-enhanced LIBS |
| AP-24 [ST] | <u>Jeongcheol Ahn</u> , Jaepil Lee, Jungwon Choi, Sungho Jeong, Jiyoung Ma, Jung-Je Woo | Development of the calibration model for Li-ion battery electrode concentration by laser-induced breakdown spectroscopy |
| AP-25 [ST] | <u>Jaepil Lee</u> , Sungho Shin, Seongguk Bae, Sungho Jeong | Method for improving classification accuracy of painted metal scraps during laser-induced breakdown spectroscopy analysis |
| AP-26 | <u>Chengjun Li</u> , Zhimin Lu, Ziyu Yu, Shunchun Yao | Exploring the chemistry matrix effects in the quantitative analysis of potassium by LIBS |
| AP-27 [ST] | <u>Yongyue Zheng</u> , Geer Teng, Xiangjun Xu, Zhifang Zhao, Kai Wei, Tianzhong Luo, Yongyue Zheng, Bingheng Lu, Qianqian Wang | Femtosecond Laser-induced breakdown Spectroscopy studies for the discrimination of plastics |
| AP-28 | <u>Sang-Ho Nam</u> , Hyang Kim, Yonghoon Lee | Laser-induced breakdown spectroscopy analysis of polished rice grains and their husks |
| AP-29 [ST] | <u>Ioana Maria Cornea</u> , Monica Dinu, Luminița Ghervase, Lucian Ratoiu, Ovidiu Țentea | A minimally-invasive multimethod approach for the study of paint-layer stratigraphy in some 2nd century polychrome murals |
| AP-30 [ST] | <u>Gookseon Jeon</u> , Woonkyeong Jung, Hohyen Keum, Kyunghwan Oh, Janghee Choi | Improving the robustness of laser-induced breakdown spectroscopy for industrial steel classification |
| AP-31 [ST] | <u>Masashi Shintani</u> , Yuko Yokoyama, Naoya Nishi, Tetsuo Sakka | Line width of Fraunhofer-type absorption in underwater LIBS |
| AP-32 | <u>Jiujiang Yan</u> , Qingzhou Li, Fangjun Qin, Liangfen Xiao, Xiangyou Li | A polynomial interactive reconstruction method based on spectral morphological features in the classification of gem minerals using portable LIBS |
| AP-33 [ST] | <u>Shixin Hu</u> , Liang Chen, Yuan Lu, Wangquan Ye, Ziwen Jia, Ye Tian, Zengfeng Du, Xin Zhang, Ronger Zheng | Super-resolution algorithm in the spectral reconstruction of laser-induced breakdown spectroscopy for rare earth elements detection |
| AP-34 [ST] | <u>Haorong Guo</u> , Yada Chi, Zexuan Dong, Minchao Cui | Rapid analysis of steel powder for 3D printing using laser-induced breakdown spectroscopy |
| AP-35 [ST] | <u>Shoujie Li</u> , Yuan Lu, Wangquan Ye, Ye Tian, Ying Li, Jinjia Guo, Ronger Zheng | Evaluation of long-pulse laser in micro laser-induced breakdown spectroscopy for human teeth analysis |
| AP-36 | <u>Zhuoyan Zhou</u> , Yuzhu Liu | LIBS in-situ online methane detection and analysis method based on C and CN spectral line competition |
| AP-37 | <u>Ryuzo Nakanishi</u> , Morihisa Saeki, Hironori Ohba | Detection of trace metals in aqueous solutions by LIBS with liquid sheet jets |
| AP-38 | <u>Koji Tamura</u> , Ryuzo Nakanishi, Hironori Ohba, Ikuo Wakaida | Radiation Effects for a Ceramics and a Single Crystal Microchip of a Laser-Induced Breakdown Spectroscopy (LIBS) System for Remote Analysis |
| AP-39 [ST] | <u>Yusuke Shimazu</u> , Hideo Nagahashi, Kosuke Suzuki, Haruka Nakano, Ayumu Matsumoto, Shinji Yae | Surface-enhanced LIBS using a porous silicon substrate — Introduction of fiber-optic system for remote analysis— |
| AP-40 | <u>Ryoichi Okada</u> , Yoshihiro Deguchi | Development of high spatial resolution mapping LIBS measurement technique for picosecond lasers |
| AP-41 [ST] | <u>Shilei Xiong</u> , Nan Yang, Guangyuan Shi, Minchao Cui | A new idea of multi-modal fusion based on LIBS spectroscopy-laser ultrasound |
| AP-42 | <u>Jun Feng</u> , Qihang Zhang, Xu Lu, Boyuan Han, Zhuoyan Zhou, Yuzhu Liu | On-line detection of VOCs in the atmosphere based on LIBS and Raman technology |

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| AP-43 | Tie Li, Ye Tian, Ziwen Jia, Jianjiang Dong and <u>Ying Li</u> | Correction method for spectra of underwater laser-induced breakdown spectroscopy under high-pressure conditions based on functional data analysis |
| AP-44 [ST] | <u>Jiahui Liang</u> , Lei Zhang, Wangbao Yin | Non-contact bacterial identification and decontamination based on laser-induced breakdown spectroscopy |