

## IN THIS ISSUE

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**Cover**  
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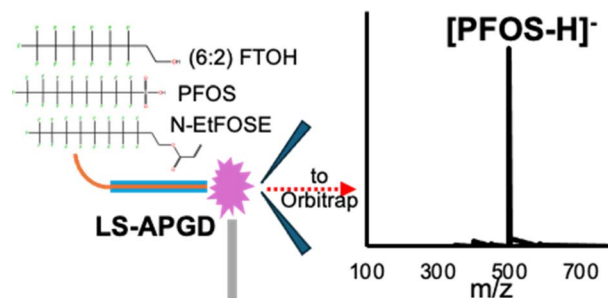
**Inside cover**  
See Yaju Li, Dongbin Qian *et al.*, pp. 2374–2381. Image reproduced by permission of Yaju Li and Dongbin Qian from *J. Anal. At. Spectrom.*, 2024, **39**, 2374.

## COMMUNICATION

2353

### Initial demonstration of microplasma ionization/Orbitrap mass spectrometry for molecular screening of perfluorinated compounds

Joseph V. Goodwin, Claudia Masucci, Davide Bleiner and R. Kenneth Marcus\*

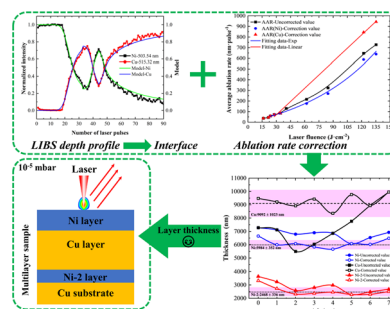


## PAPERS

2363

### Study of the layer thickness of multilayer sample by the LIBS method based on ablation rate correction

Shiming Liu, Cong Li,\* Qi He, Huace Wu, Xiaohan Hu, Boliang Men, Ding Wu, Ran Hai, Xingwei Wu and Hongbin Ding



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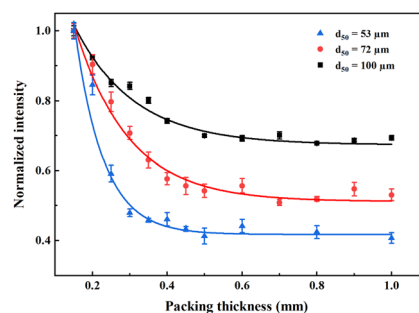
Fundamental questions  
Elemental answers



2374

### Packing thickness dependent plasma emission induced by laser ablating thin-layer microgranular materials

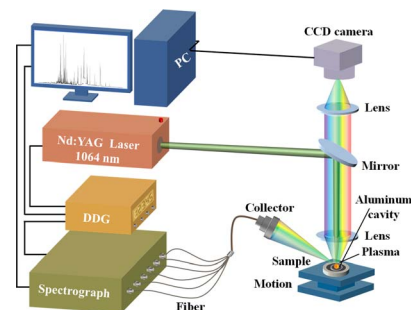
Kou Zhao, Qiang Zeng, Yaju Li,\* Shu Hang Gong, Yifan Wu, Xiangyu Shi, Jinrui Ye, Xueqi Liu, Xinwei Wang, Dongbin Qian,\* Liangwen Chen, Shaofeng Zhang, Lei Yang and Xinwen Ma



2382

### Cavity-constrained LIBS combined with the gray wolf optimization algorithm for optimizing bidirectional long short-term memory (GWO-BiLSTM) networks for classification prediction of different brands of cigarettes

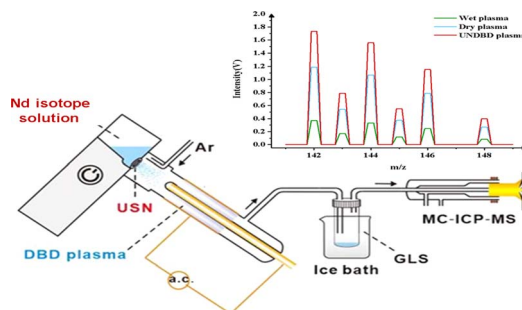
Junjie Chen, Xiaojian Hao,\* Biming Mo, Shuaijun Li, Junjie Ma, Xiaodong Liang, Zheng Wang and Heng Zhang



2395

### Sensitive determination of neodymium isotope in seawater by multi-collector inductively coupled plasma mass spectrometry with ultrasound nebulization-dielectric barrier discharge vapor generation as sample introduction

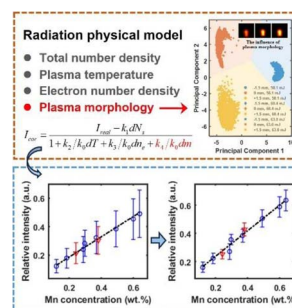
Dongyong Li, Guanghao Cui, Shanshan Chen, Yifan Qiao, Qian Liu, Jing Zhang and Qian He\*



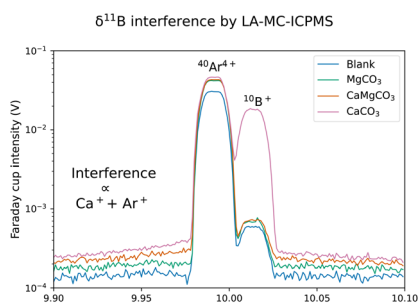
2402

### A novel spectral standardization method capable of eliminating the influence of plasma morphology to improve LIBS performance

Deng Zhang,\* Zili Chen, Junfei Nie, Yanwu Chu\* and Lianbo Guo\*



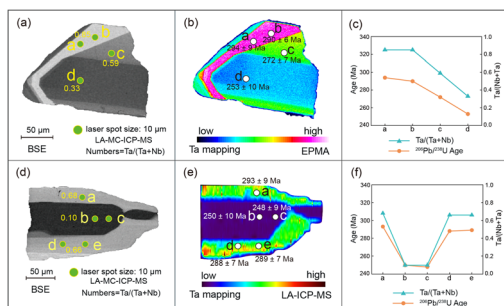
2409



### Determining the sources of (sub)permil-level inaccuracy during laser ablation-MC-ICPMS boron isotope measurements of carbonates

Douglas Coenen,<sup>\*</sup> David Evans, Hana Jurikova, Matthew Dumont, James Rae and Wolfgang Müller

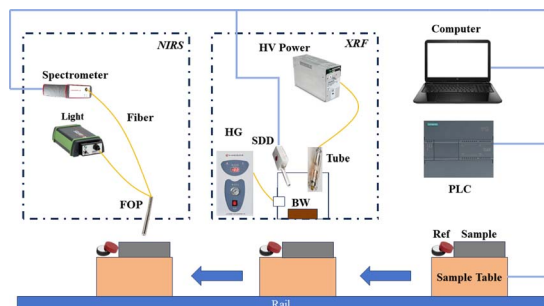
2421



### Application of high-resolution laser multi collector ICP-MS U–Pb dating to columbite-group minerals with compositional zonation: reassessment of matrix effects among columbite-group minerals

Shuang Yang, Liang-Liang Zhang,<sup>\*</sup> Rui Wang,<sup>\*</sup> Di-Cheng Zhu, Jin-Cheng Xie, Qing Wang and Wen-Tan Xu

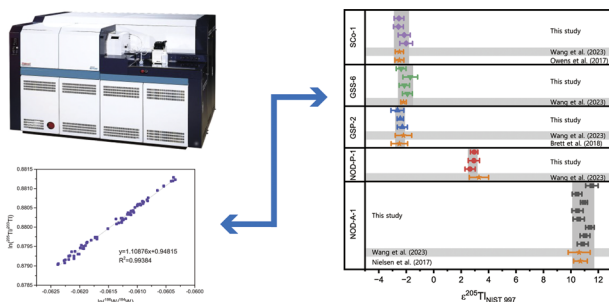
2433



### Enhancing multi-type coal quality prediction accuracy with fusion spectra and classification models using NIRS and XRF techniques

Zhedong Zhang, Jiakuan Li, Rui Gao, Yang Zhao, Yan Zhang, Lei Zhang,<sup>\*</sup> Zefu Ye, Zhujun Zhu, Peihua Zhang, Wangbao Yin<sup>\*</sup> and Suotang Jia

2443



### Determination of thallium isotopic composition through MC-ICP-MS with mass bias corrected using admixed W

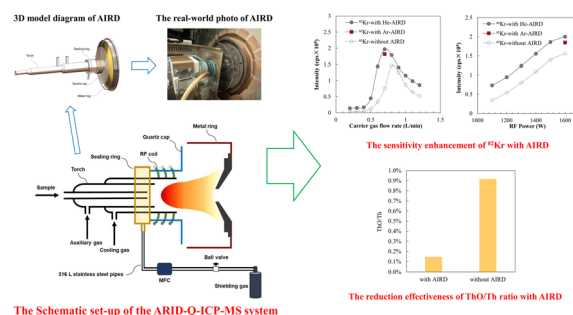
Zhao-Yang Wang, Fei-Yu Dong, Lu Yin, Jun-Jie Liu, Qiao-Hui Zhong and Jie Li<sup>\*</sup>



2452

## A device for reducing the atmosphere-induced interferences for analysis using inductively coupled plasma-mass spectrometry

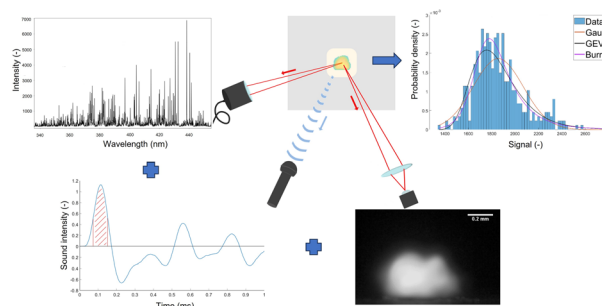
Xin Jiang, Yongsheng Liu,\* Wengui Liu, Jie Lin, Zhenyi Liu, Lifei Chen, Xi Zhu, Wen Zhang and Zhaochu Hu



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## Statistical behaviour of laser-induced plasma and its complementary characteristic signals

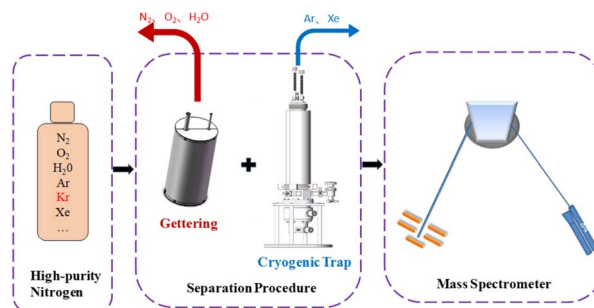
Jakub Buday,\* Daniel Holub, Pavel Pořízka and Jozef Kaiser



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## Determination of ultra-trace level krypton concentration in high-purity nitrogen using a static vacuum mass spectrometer

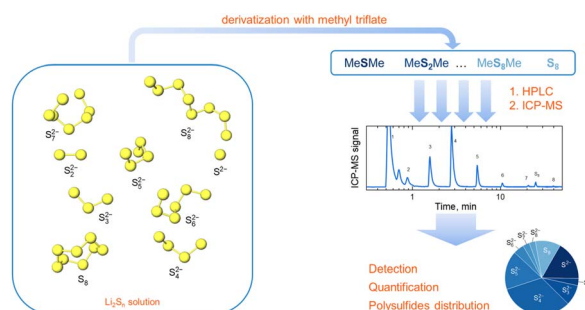
Sui Fang, Zhiming Li, Yedong Guan, Jiang Xu, Meng Li, Tai Kang, Wei Wang and Guanyi Wei\*



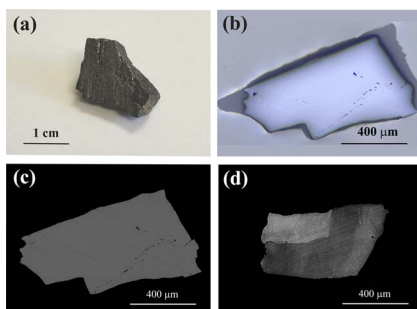
2480

## Determination of polysulfide anions and molecular sulfur *via* coupling HPLC with ICP-MS

Aleksei Sadykov, Yannick P. Stenzel, Martin Winter, Simon Wiemers-Meyer and Sascha Nowak\*



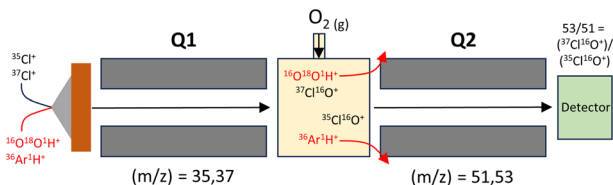
2488



### The KNW rutile—a natural reference material for microbeam U–Pb age and trace element determination

Jia Meng, Shitou Wu,\* Hao Wang,\* Yueheng Yang, Chao Huang, Chao Zhang, Wenqiang Yang, Jiarun Tu, Shuiyuan Yang, Qian Ma, Qian Wang, Lei Xu and Liewen Xie

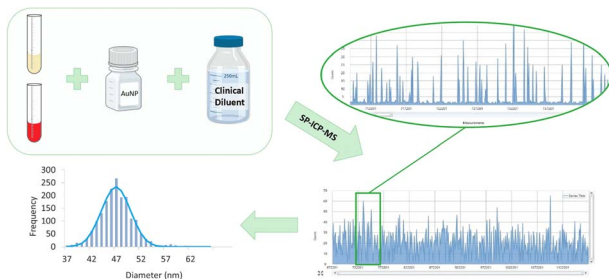
2502



### Rapid and accurate determination of chlorine isotopic ratios with ICP-MS/MS using O<sub>2</sub> reaction gas

Tyler D. Schlieder,\* Nicole D. Rocco, Maria Laura di Vacri, Isaac J. Arnquist, Danny Bottenus, Zachary Huber and Bruce McNamara

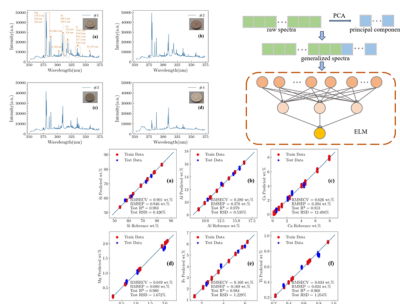
2508



### Single particle ICP-MS: a tool for the characterization of gold nanoparticles in nanotheranostics applications

Meritxell Cabré, Gabriel Fernández, Esther González, Jordi Abellà and Ariadna Verdaguer\*

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### High-accuracy quantification of soil elements by laser-induced breakdown spectroscopy based on PCA-GS-ELM

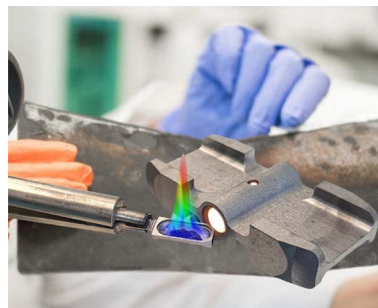
Fanhua Qu, Haochen Li, Qifang Sun, Wanxiang Li, Yuchao Fu, Meizhen Huang and Tianyuan Liu\*



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### Lithium-ion batteries: direct solid sampling for characterisation of black mass recyclates using graphite furnace atomic absorption spectrometry

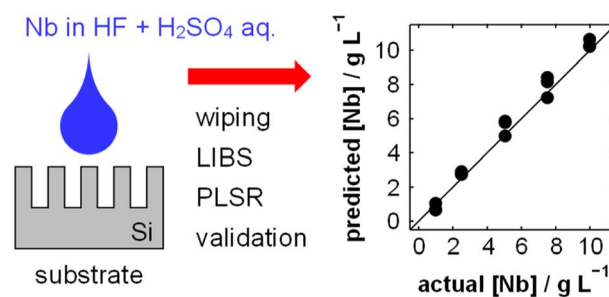
Maria Dommaschk,\* Tim Sieber and Jörg Acker



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### Quantitative analysis of niobium in electropolishing solution by laser-induced breakdown spectroscopy using porous silicon

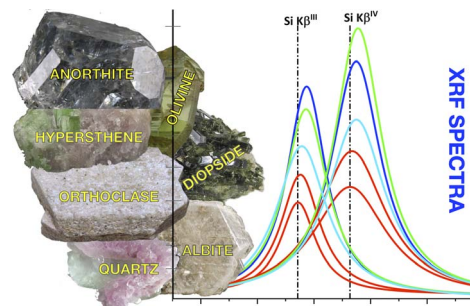
Ayumu Matsumoto,\* Yuta Toyama, Yusuke Shimazu, Keisuke Nii, Yoshiaki Ida and Shinji Yae



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### Novel application of silicon multi-vacancy satellite peaks for silicate minerals analysis in igneous rocks using WD-XRF coupled with chemometrics analysis

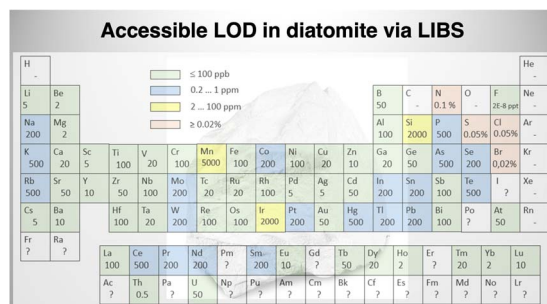
Ashok Kumar Maurya\*



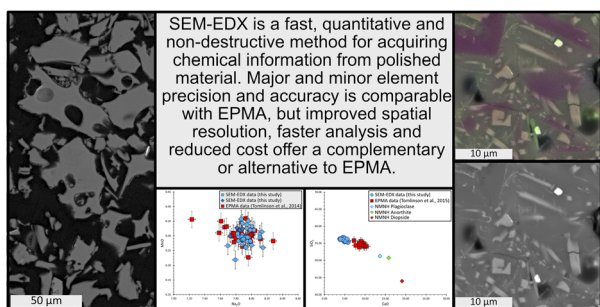
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### Quantification of impurities in diatomite via sensitivity-improved calibration-free laser-induced breakdown spectroscopy

Nabila Belkhir, Sid Ahmed Beldjilali,\* Mohamed Amine Benelmouaz, Saad Hamzaoui, Anne-Patricia Alloncle, Christoph Gerhard and Jörg Hermann



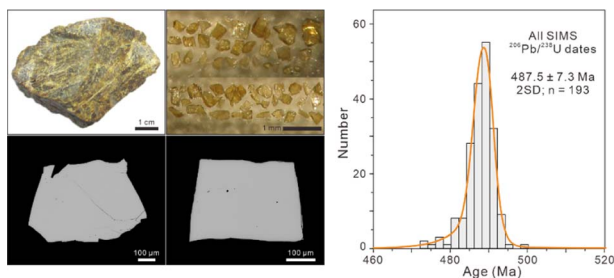
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### Optimizing SEM-EDX for fast, high-quality and non-destructive elemental analysis of glass

Paul C. Guyett,\* David Chew, Vitor Azevedo, Lucy C. Blennerhassett, Carolina Rosca and Emma Tomlinson

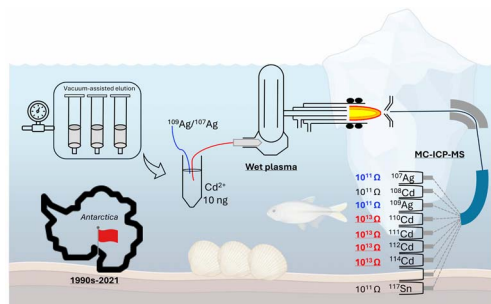
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### Assessment of M6 monazite as a potential reference material for *in situ* microbeam analyses of U–Th–Pb geochronology and O–Nd isotopes

Zhi Chen, Li-Guang Wu, Xiao-Xiao Ling,\* Jörn-Frederik Wotzlaw, Cyril Chelle-Michou, Yang Li, Zhen-Hui Hou, Wen-Lei Song, Qian Mao, Wen-Qiang Yang, Yu Liu, Guo-Qiang Tang, Jiao Li, Qiu-Li Li and Xian-Hua Li

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### High-precision low-level Cd isotopic analysis using MC-ICP-MS and its application to marine samples from Terra Nova Bay (Antarctica)

Maria Alessia Vecchio, Lana Abou-Zeid, Marco Grotti and Frank Vanhaecke\*

