

### IN THIS ISSUE

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#### Cover

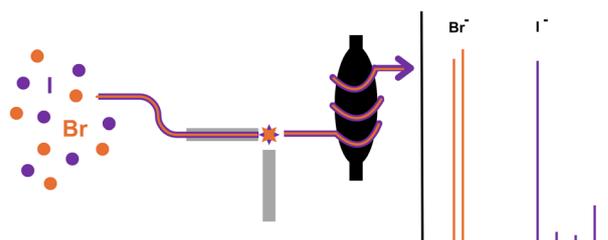
See Xilin Wang *et al.*, pp. 2658–2672. Image reproduced by permission of Xilin Wang from *J. Anal. At. Spectrom.*, 2025, **40**, 2658.

### COMMUNICATION

2625

#### Detection of Br and I as atomic anions using liquid sampling – atmospheric pressure glow discharge/Orbitrap mass spectrometry

Dehlia A. Lang, Joseph V. Goodwin, Cameron J. Stouffer, Benjamin T. Manard and R. Kenneth Marcus\*

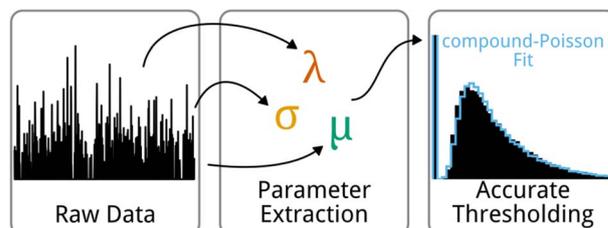


### TECHNICAL NOTES

2633

#### Accurate thresholding using a compound-Poisson-lognormal lookup table and parameters recovered from standard single particle ICP-TOFMS data

Thomas E. Lockwood,\* Raquel González de Vega, Lukas Schlatt and David Clases



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## TECHNICAL NOTES

2641

### A novel approach to achieve Os isotope equilibration under ambient conditions for negative thermal ionization mass spectrometry (N-TIMS) analysis

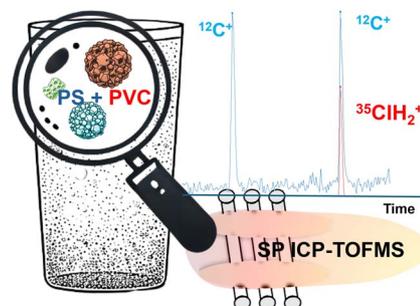
Jin-Hua Liu, Xiao-Dong Deng,\* Jian-Wei Li, Lan-Ping Feng and Thomas J. Algeo



2649

### Single particle ICP-TOFMS for the detection of micro-scale polystyrene and polyvinyl chloride from artificially aged bulk plastic

Raquel Gonzalez de Vega, Maximilian J. Huber, Isabel S. Jüngling, Natalia P. Ileva and David Clases\*

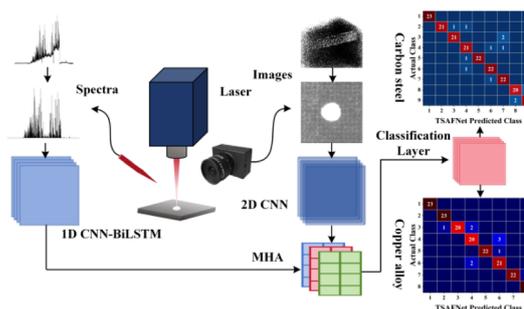


## PAPERS

2658

### Attention-based multimodal fusion of event-reconstructed images and LIBS spectra using CNN and BiLSTM for metal classification

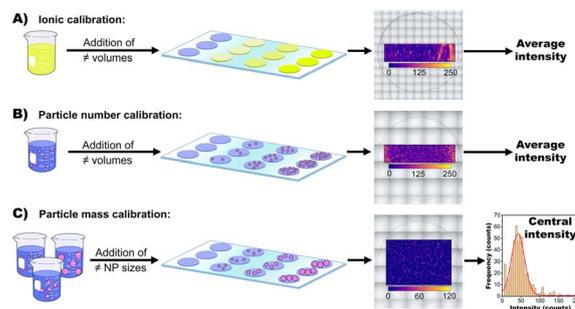
Honglin Jian, Lei Deng, Jun Wang, Zikui Shen, Xilin Wang\* and Zhidong Jia



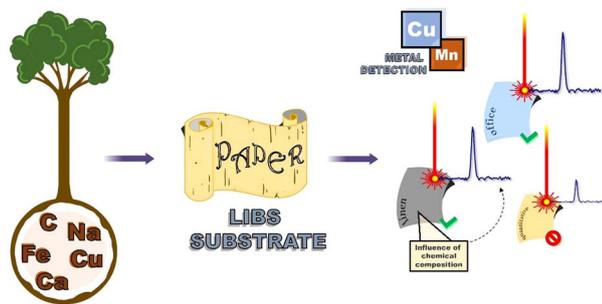
2673

### A novel particle mass calibration strategy for the quantification of AuNPs in single cancer cells via laser ablation ICP-mass spectrometry. A case study

Antonio Bazo,\* Eduardo Bolea-Fernandez, Kharmen Billimoria, Ana Rua-Ibarz, Maite Aramendía, Paula Menero-Valdés, Jack Morley, Sara Neves, Armando Sánchez-Cachero, Heidi Goenaga-Infante and Martín Resano



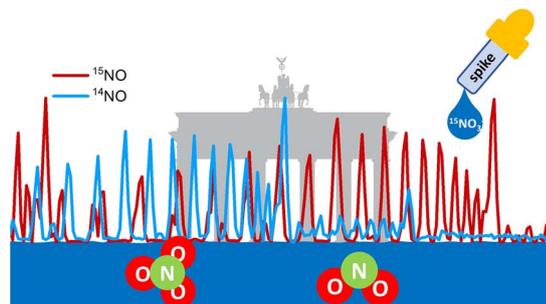
2682



### Evaluation of different types of paper as solid substrates and their effects on LIBS emission signals

Adriana L. Sales, Nilvan A. Silva and Ivo M. Raimundo, Jr\*

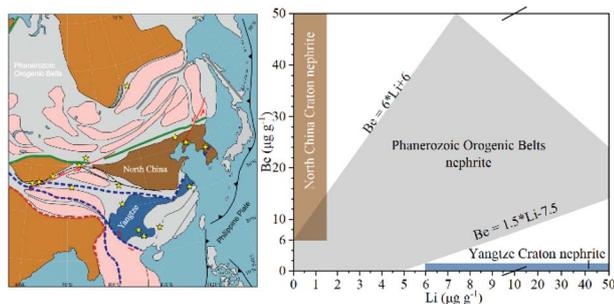
2692



### SI-traceable total analysis of nitrate and nitrite by isotope dilution optical spectroscopy and its application to Berlin surface waters

Carlos Abad,\* Dennis Jegielka, Allen Aloysius and Sebastian Recknagel

2702

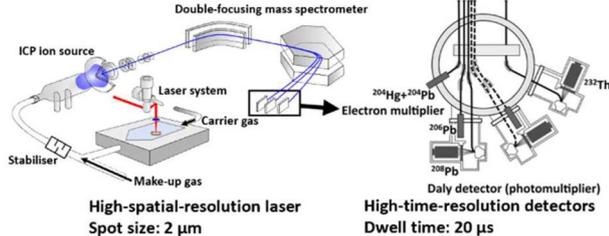


### A new tectonic-geochemical approach using LA-ICP-MS to constrain the provenance of East Asian carbonate-related nephrite

Yuefeng Zhang, Jiong Yang, Zhili Qiu,\* Xianzi Gu, Han Luo, Lifeng Zhong, Fengchun Li, Hui Wang, Guoke Chen, Shecai Qin, Liufen Li, Zhichao Liu and Kangyou Huang

2716

### Single-particle MC-ICP-MS coupled with fsLA

 $^{208}\text{Pb}/^{232}\text{Th}$  analysis of individual particles generated by fsLA of monazite

### Mechanism of elemental fractionation during femtosecond laser ablation revealed by high-time-resolution MC-ICP-MS analysis of $^{208}\text{Pb}/^{232}\text{Th}$ ratios in single particles

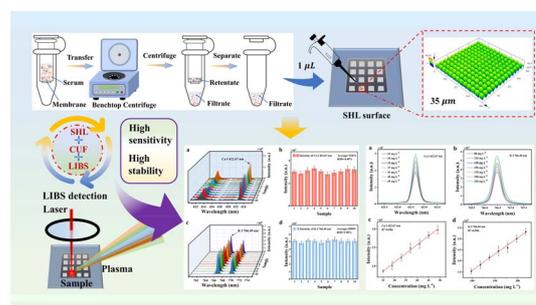
Sota Niki\* and Takafumi Hirata\*



2725

### Synergistic integration of centrifugal ultrafiltration and superhydrophilic substrates for enhanced sensitivity and stability in laser-induced breakdown spectroscopy

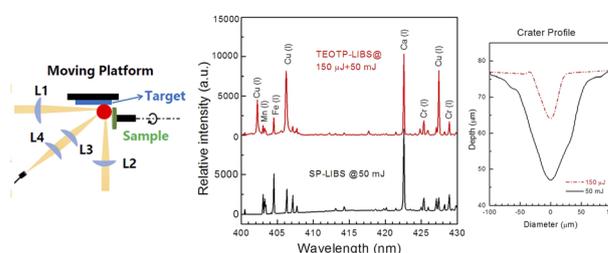
Yuan Liu, Dehua Zhu, Yu Cao, Jiapeng He, Youzhi Zhang, Fang Zhao\* and Wei Xue\*



2737

### Elemental detection of jades with reduced sample damage by target-enhanced orthogonal double-pulse LIBS using surface micro-structured copper target

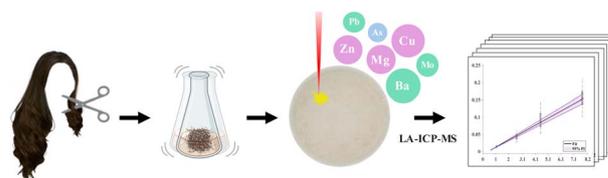
Yufeng Li, Zenghui Wang, Xueqin Huang, Runhua Li and Yuqi Chen\*



2745

### Development of a matrix-matched standard for the elemental analysis of human hair by LA-ICP-MS

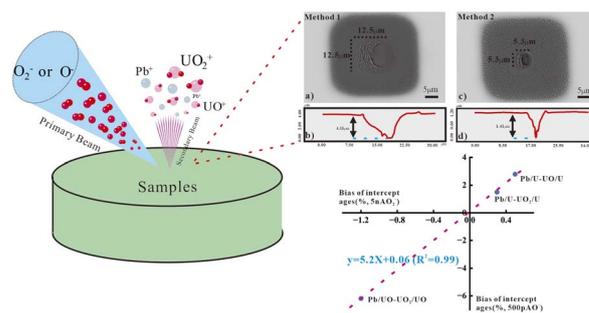
Kaitlyn Bonilla, Ashley Fox, Chloe Phillips and Matthieu Baudelet\*



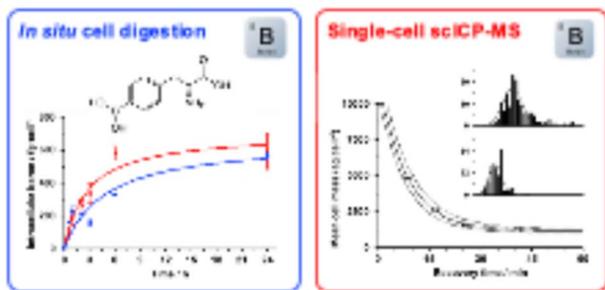
2753

### In situ micro-beam U–Pb dating of apatite using CAMECA 1300HR<sup>3</sup> LG-SIMS

Yue Guan, Jun-Yong Li, Allen K. Kennedy, De-Hong Du, Lan-Lan Tian, Wen-Li Xie and Xiao-Lei Wang\*



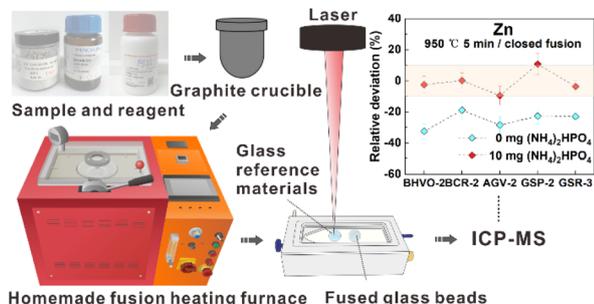
2763



### Kinetic analysis of boron therapeutics in head and neck cancer cells by complementary bulk ICP-MS and single-cell (sciCP-MS) approaches

Jack G. Finch, Rhiannon J. Pass, Maria Rita Fabbri, Aimee E. P. McLoughlin, Stuart Green, Jason L. Parsons and James P. C. Coverdale\*

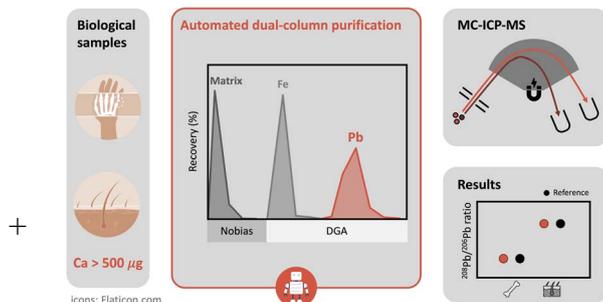
2773



### A novel $(\text{NH}_4)_2\text{HPO}_4\text{-LiBO}_2$ fusion technique for bulk silicate rock analysis by laser ablation-inductively coupled plasma-mass spectrometry

Xiaoyun Qiu, Zhaochu Hu,\* Tao Luo, Tao He, Wen Zhang, Ming Li, Zhenli Zhu, Lijin Huang and Mingxing Gong

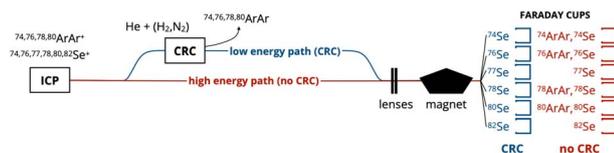
2783



### Fully automated dual-column purification procedure for Pb from biological materials for subsequent high-precision isotopic analysis

Anika Retzmann,\* Kerri A. Miller, Sebastian Champagne, Gabriella Gelinas and Michael E. Wieser

2792



### High precision selenium isotope analysis using a Nu Sapphire collision–reaction cell MC-ICP-MS

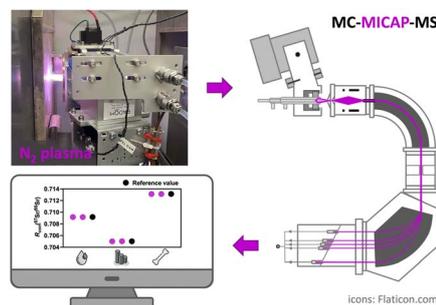
Michael A. Kipp,\* Laura F. Piccirillo and Daniel Peters



2803

## Introducing MC-MICAP-MS: using a N<sub>2</sub>-based plasma ion source for Sr isotope abundance ratio measurements

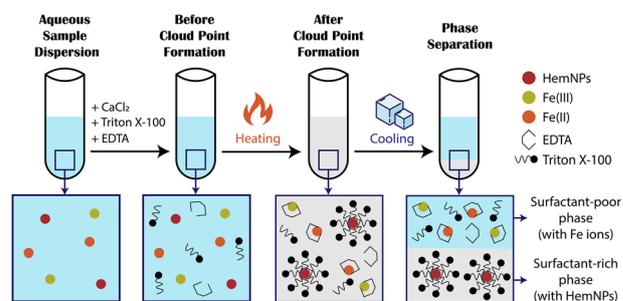
Anika Retzmann,\* Ashok Menon and Michael E. Wieser



2816

## Selective separation and quantification of hematite nanoparticles and ionic iron via cloud point extraction and flame atomic absorption spectrometry

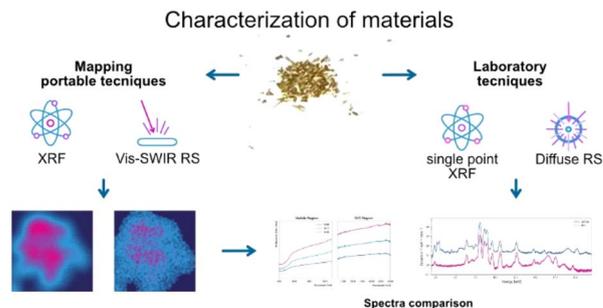
Rafael Soares Stenico, Maycon Lucas de Oliveira and Márcia Andreia Mesquita Silva da Veiga\*



2826

## Feasibility study to evaluate composition and degradation of orichalcum ingots through combined XRF and VIS-SWIR reflectance mapping

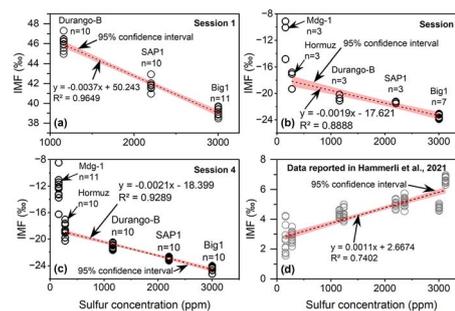
Anna Galli, Jacopo Orsilli,\* Adele Sassella, Luisa Raimondo, Simone Caglio, Maria Luisa Saladino, Francesco Armetta, Mario Berrettoni, Paolo Conti and Eugenio Caponetti



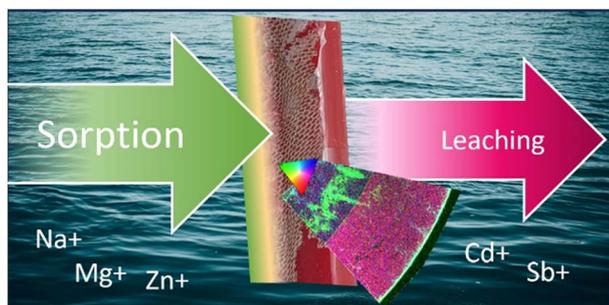
2833

## Matrix effect during sulfur isotope determination of apatite using SIMS and the potential of using bioapatite to reconstruct the sulfur isotopic composition of seawater

Rucao Li,\* Jianwei Yu, Jinyu Yan, Xiao-Lei Wang, Jianlin Liao, Yue Guan, Lan-Lan Tian and Chengming Wang\*



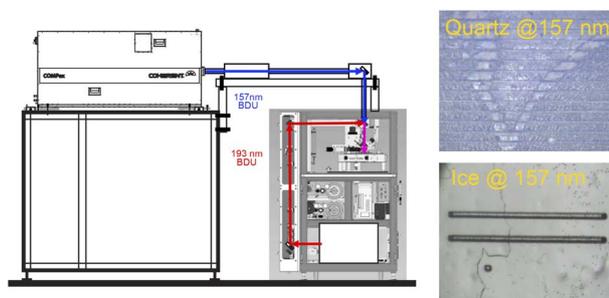
2841



### Investigating metal distribution patterns in pristine and ocean-weathered plastics using LA-ICP-TOFMS

Lyndsey Hendriks,\* Matthias Egger and Denise M. Mitrano

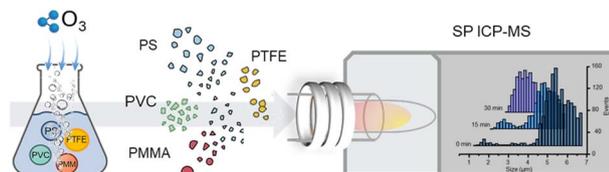
2857



### Rationale, design and initial performance of a dual-wavelength (157 & 193 nm) cryo-LA-ICP-MS/MS system

Tobias Erhardt,\* C. Ashley Norris, Ruben Rittberger, Michael Shelley, Martin Kutzschbach, Linda Marko, Alexander Schmidt and Wolfgang Müller\*

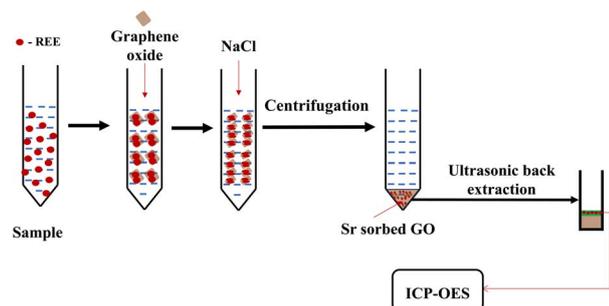
2870



### Ozone-mediated breakdown of microplastics in aqueous environments

Markus A. B. Wieland, Sebastian P. Schwaminger, Matthias Elinkmann, Paul M. Stüger, Jörg Feldmann, David Clases and Raquel Gonzalez de Vega\*

2879



### Graphene oxide mediated dispersive micro solid phase extraction (Dμ-SPE) and quantification of rare earth elements (REEs) from seawater and coal fly-ash by ICP-OES

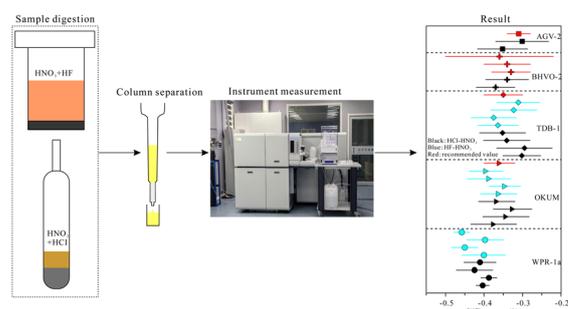
D. Saikrishna,\* Vatsal Trivedi, G. Venkateswarlu, M. Sebastian, R. Shekhar and K. Dash



2888

### Comparative determination of rhenium isotopes in geological reference materials with and without HF-desilicification

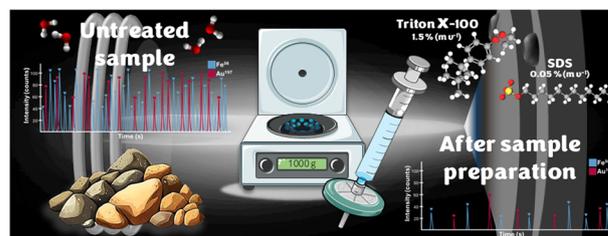
Jin-Hua Liu, Xiao-Dong Deng,\* Jian-Wei Li and Thomas J. Algeo



2897

### Assessing the impact of common sample preparation strategies for single particle ICP-MS regarding recovery and size distribution of natural single particles

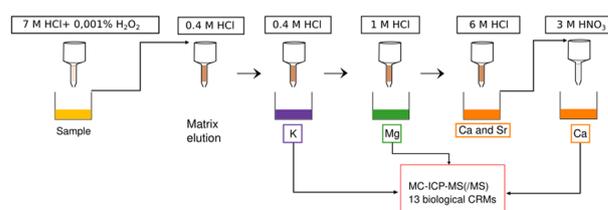
Lhiam Paton,\* Sandra Kiesel, Grit Steinhöfel, Matthias Elinkmann, Thebny Thaise Moro, Raquel Gonzalez de Vega, Pascal Bohleber and David Clases



2909

### K, Mg, and Ca isotopic analysis from a single aliquot of thirteen biological certified reference materials

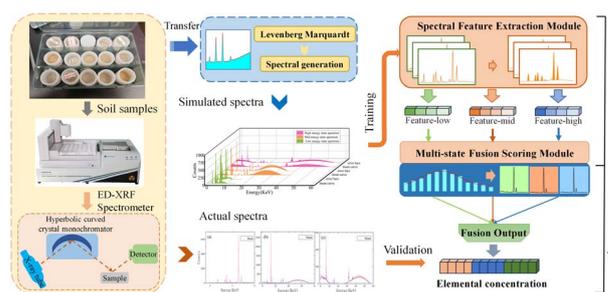
Léo Delette,\* Emmanuelle Albalat, Philippe Télouk, Frank Vanhaecke and Vincent Balter



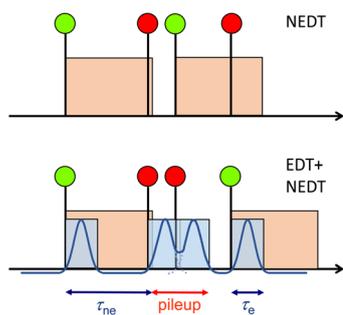
2923

### Enhanced quantitative elemental analysis in XRF spectroscopy using deep learning fusion network

Mohai Yue, Qi Zhang,\* Xiangjun Xin, Ran Gao, Jiajie Li, Lan Rao, Yuwen Qin, Fugen Wu, Zhongfei Mu, Feng Tian, Yun Teng, Fu Wang, Yongjun Wang and Qinghua Tian



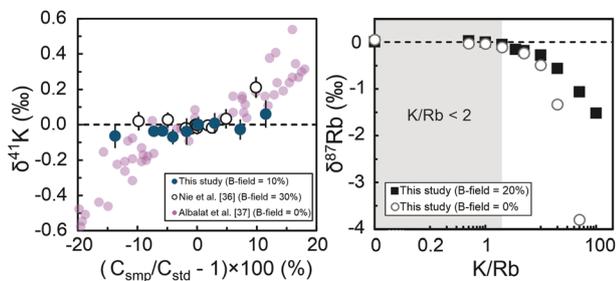
2937



## Non-linearity correction for variable signal analysis in mass spectrometry using discrete ion counters

Stefaan Pommé\*

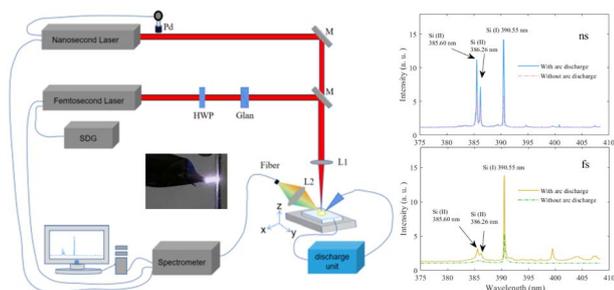
2945



## Potassium and rubidium isotopic analysis using Neoma MC-ICPMS with the collision/reaction cell

Zhe J. Zhang,\* Nicole X. Nie and Colin Z. Lin

2957



## Spectral signal enhancement in laser-induced breakdown spectroscopy via arc discharge assistance

Xin Yu, Yuqi Hu, Yuanfei Jiang, Anmin Chen\* and Mingxing Jin\*

