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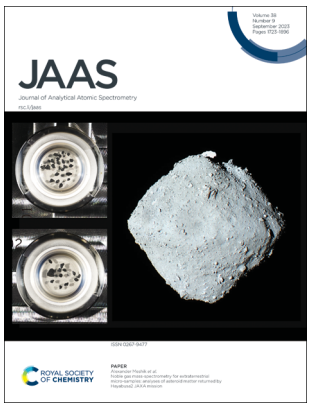

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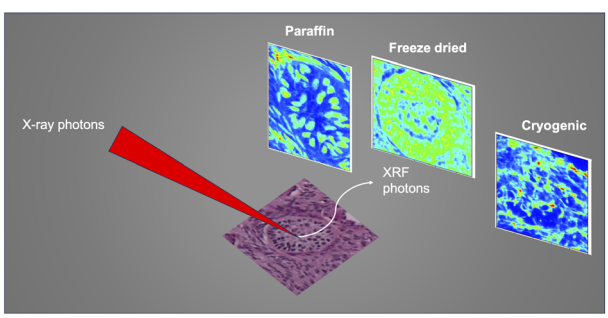
Alessandra Gianoncelli,* Katarina Vogel- Mikuš, Murielle Salomé, Ernesto Pascotto, Giuseppe Ricci and Lorella Pascolo



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CRITICAL REVIEW

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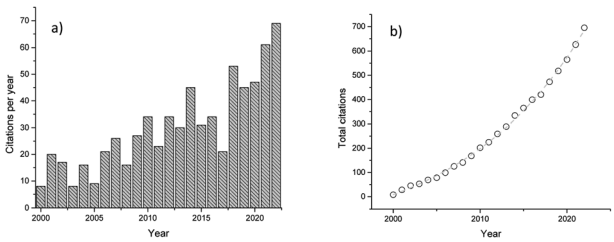
Catching up on calibration-free LIBS

Francesco Poggialini, Beatrice Campanella, Bruno Cocciaro, Giulia Lorenzetti, Vincenzo Palleschi* and Stefano Legnaioli



TUTORIAL REVIEW

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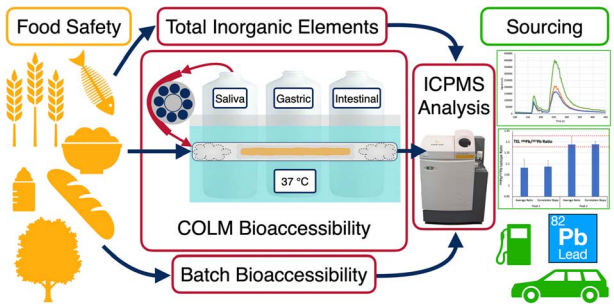
The continuous on-line leaching method coupled to inductively coupled plasma mass spectrometry for risk assessment of food safety and for sourcing of elements: a tutorial review

Alastair Kierulf and Diane Beauchemin*



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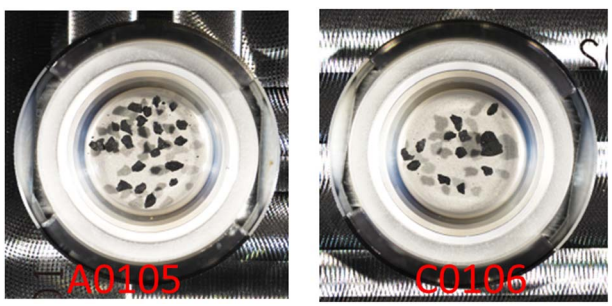
Noble gas mass-spectrometry for extraterrestrial micro-samples: analyses of asteroid matter returned by Hayabusa2 JAXA mission

Alexander Meshik,* Olga Pravdivtseva, Ryuji Okazaki, Kasumi Yogata, Toru Yada, Fumio Kitajima, Hisayoshi Yurimoto, Tomoki Nakamura, Takaaki Noguchi, Hikaru Yabuta, Hiroshi Naraoka, Kanako Sakamoto, Shogo Tachibana, Masahiro Nishimura, Aiko Nakato, Akiko Miyazaki, Masanao Abe, Tatsuaki Okada, Tomohiro Usui, Makoto Yoshikawa, Takanao Sakai, Satoshi Tanaka, Fuyuto Terui, Satoru Nakazawa, Seiichiro Watanabe, Yuichi Tsuda and Hayabusa2 Initial Analysis Volatile Team



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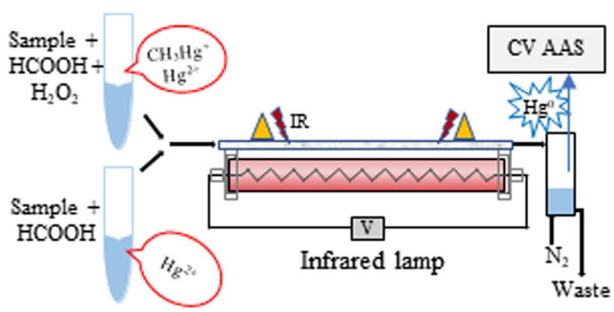
Infrared radiation-assisted thermochemical vapor generation for mercury speciation by atomic absorption spectrometry

Victor Marques Campos, Jane Kelly Sousa Brito, Wladiana Oliveira Matos, Lívia Paulia D. Ribeiro and Gisele Simone Lopes*



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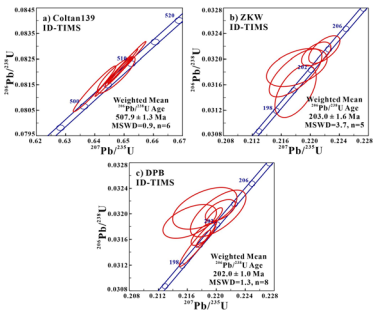
Time	Sample			Sample + spike		Recovery	
min	RD[a] μg kg^{-1}	RD*DF[b] μg kg^{-1}	RSD	μg kg^{-1}	RSD	%	RSD
0	1.09	109	1.3	11.01	1.3	99.2	2.9
30	0.95	95	6.1	10.30	6.1	93.5	0.5
60	0.97	97	5.4	10.65	5.4	96.7	1.9
90	1.03	103	5.2	10.61	5.2	95.8	3.7
120	0.91	91	5.6	9.94	5.6	90.4	1.9
150	1.00	100	3.3	10.13	3.3	91.2	1.1
180	1.06	106	0.5	10.95	0.5	98.9	1.2

[a] Raw data, [b] dilution factor

Determination of chlorine in Hf precursors by high-resolution inductively coupled plasma mass spectrometry

Hanul Lee, Seongkyong Joo and Dongchul Suh*

1816



Characterization of reference materials for *in situ* U–Pb dating of columbite group minerals by LA-ICP-MS

Ming Yang, Yue-Heng Yang,* Rolf L. Romer, Xu-Dong Che, Ru-Cheng Wang, Fu-Yuan Wu, Guang-Chun Fei, Yun Deng and Tao Wu

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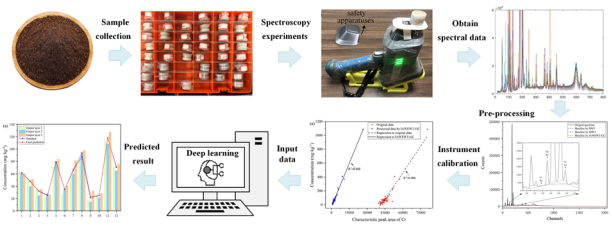

Quantitative analysis of heavy metals in soil *via* hierarchical deep neural networks with X-ray fluorescence spectroscopy

Wanqi Yang, Fusheng Li,* Shubin Lyu, Qinglun Zhang and Yanchun Zhao

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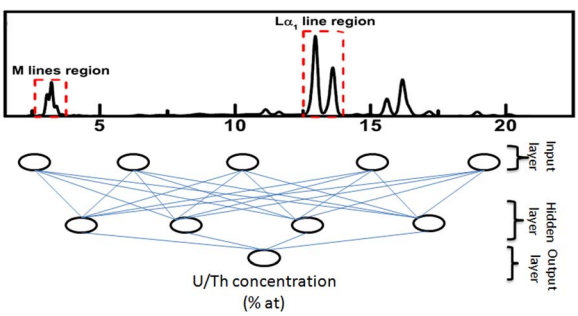

An X-ray fluorescence and machine learning based methodology for the direct non-destructive compositional analysis of $(Th_{1-x}U_x)O_2$ fuel pellets

Buddhadev Kanrar,* Kaushik Sanyal, Arnab Sarkar and Rajesh V. Pai

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PAPERS

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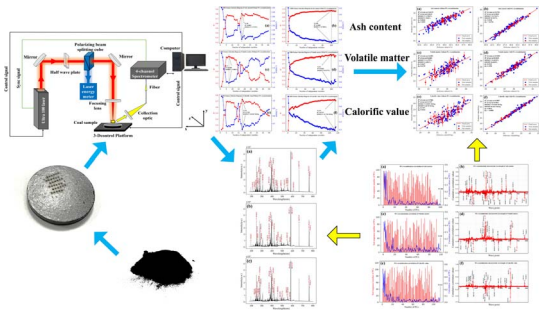
Determination of ash content, volatile matter, and calorific value in coal by OLS combined with laser-induced breakdown spectroscopy based on PC recombination

Shengen Zhu, Wenhao Zhang,* Guangdong Song,* Yadong Li, Binxin Hu, Feng Zhu, Hua Zhang, Yubin Wei, Tengfei Sun and Jing Tang



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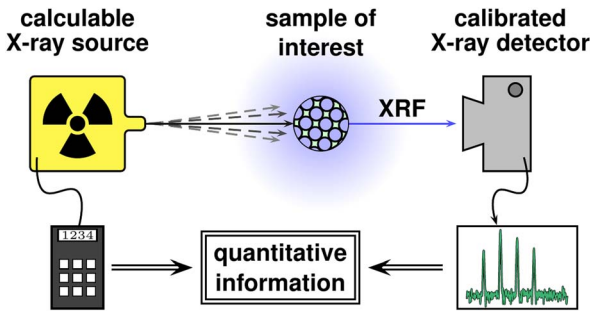
Reference-free X-ray fluorescence analysis using well-known polychromatic synchrotron radiation

André Wählisch,* Malte Wansleben, Rainer Unterumsberger, Yves Kayser and Burkhard Beckhoff



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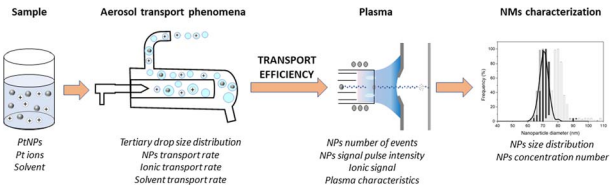
Unraveling the role of aerosol transport on nanomaterial characterization by means single particle inductively coupled plasma mass spectrometry

Daniel Torregrosa, Guillermo Grindlay, Luis Gras and Juan Mora



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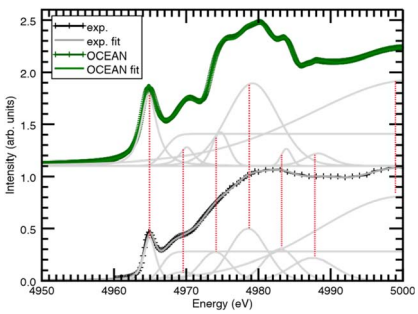
Titanium and titanium oxides at the K- and L-edges: comparing theoretical calculations to X-ray absorption and X-ray emission measurements

Karina Bzheumikhova,* John Vinson, Rainer Unterumsberger, Malte Wansleben, Claudia Zech, Kai Schüler, Yves Kayser, Philipp Hönicke and Burkhard Beckhoff