

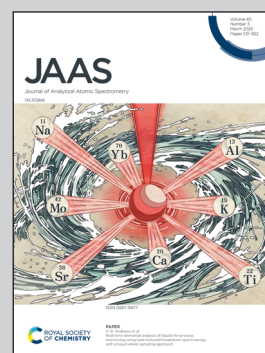
Showcasing research from Dr Zhi-Yong Zhu's group, Ministry of Natural Resources Key Laboratory of Isotope Geology, Institute of Geology, Chinese Academy of Geological Sciences, Beijing, China.

*In situ* carbon isotope analysis of diamonds using LA-MC-ICP-MS inspired by the distribution of ions and isotope ratios in ICP

The spatial distribution of  $^{40}\text{Ar}^{3+}$  in Inductively Coupled Plasma (ICP) is shown. We investigated the relationship among the intensity of  $^{40}\text{Ar}^{3+}$ ,  $^{12}\text{C}^+$ , and  $^{13}\text{C}/^{12}\text{C}$  values in the ICP. The most stable zone for the carbon isotope analysis in the ICP is located at ~1.4 mm ahead the  $^{12}\text{C}^+$  signal-maximum point. Besides, the interactive influence of the ionization process of the nuclides leads to elemental and isotopic fractionations, which is one of the mechanisms of the matrix effect.

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See Zhi-Yong Zhu *et al.*,  
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