

研究报告

MC-ICP-MS测量Ru同位素丰度比值的质量歧视校正

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摘要 采用MC-ICP-MS测量Ru同位素丰度比时, 存在较大的质量偏倚。利用Isoprobe MC-ICP-MS测量了RuCl₃中Ru同位素丰度比值, 并利用幂、指数以及通用幂校正规律(GPL)对Ru同位素丰度比值测量的质量偏倚进行了校正。结果表明, 以¹⁰⁰Ru/¹⁰²Ru、¹⁰⁴Ru/¹⁰²Ru作为内标, 采用GPL校正质量偏倚, 得到的Ru同位素丰度更接近于天然值, 与天然值的偏差在(20~650)×10⁻⁶之间。

关键词 [多接收电感耦合等离子体质谱\(MC-ICP-MS\)](#) [Ru](#) [质量偏倚](#) [通用幂校正\(GPL\)](#)

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Abstract The large mass bias was corrected during the measurement of Ru isotope abundance by multicollector inductively coupled plasma mass spectrometer(MC-ICP-MS). A natural RuCl₃ sample was determined by isoprobe MC-ICP-MS. The power law, exponential law and generalised power law(GPL) were adopted to correct the mass discrimination. The results show that if ¹⁰⁰Ru/¹⁰²Ru、¹⁰⁴Ru/¹⁰²Ru ratio are adopted to be the normalization, the mass bias can be well corrected by GPL. The correcting values of isotopic abundance ratios of Ru agree with the natural values at the level of (20—650) ×10⁻⁶.

Key words [multicollector inductively coupled plasma mass spectrometer\(MC-ICP-MS\)](#) [Ru](#) [mass discrimination](#) [generalised power law\(GPL\)](#)

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