

技术交流

碱熔ICP-MS法测定岩石样品中稀土等28种金属元素

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摘要 将盛有一定量的样品和过氧化钠溶剂混合物的容器放入预先升至700℃的高温炉中, 保温15 min, 熔融分解样品, 取出冷却, 热水提取后, 放置过夜, 使被测元素充分沉淀, 过滤分离掉大量溶剂及可溶离子。再将沉淀物用硝酸复溶, 控制酸度为2%, 采用同步”Y”形管内标输入法测定岩石矿物中稀土等28种金属元素。采用该方法对国家一级标准物质GBW07103、GBW07105进行测定表明, 其结果与推荐值相符。在实际样品测试中, 稀土元素球粒陨石图所体现的典型岩性与岩矿鉴定结果也吻合。由于本方法以Na₂O₂为主溶剂, 因此适用于各类地质样品类型。

关键词 [电感耦合等离子体质谱](#) [岩石](#) [碱熔](#) [金属元素](#)

分类号

Determination of 28 Elements Including Rare Earth Elements by ICP-MS in Alkali Melted Rock Sample

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Abstract Put a vessel containing a mixture of quantitative samples and Na₂O₂ into a oven, which was heated to 700 °C beforehand and keep 15 min, so that the samples could be decomposed. Take the vessel out and cool down, add hot water, keep it over night, so that the elements were measured deposit fully. Separate off large amount of solvent and soluble ions by filter, then dissolve the deposit with HNO₃, control acidity at 2%. 28 metal elements including rare earth elements in rock and ore were measured by Y-type tube internal standard import to ICP-MS. CRM GBW 07103 and GBW07105 were determined, the results fit the values of the standards. The typical rock characters in rare earth picture of chondrite is identical with the result of rock identify. For the method using Na₂O₂ as solvent, so it is suitable for different type of geologic samples.

Key words [ICP-MS](#) [rock](#) [alkali](#) [melted](#) [metal](#) [element](#)

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