

Measurements of Boron isotopic ratios by SIMS

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Boron is an element that is produced in interstellar space, and hence is expected to have information on interstellar space. Boron isotopic composition was measured by SIMS using O- primary beam. Boron is detected as positive ions. At high boron concentrations, the isotopic composition can be reproduced with an uncertainty better than 1 permil. At lower concentrations, the error is determined by the counting statistics of detected ions. This good reproducibility is attained only with a strong primary beam. Otherwise, a strong matrix effect on isotopic composition is observed. In the case of a basaltic glass sample, the instrumental mass fractionation is about -36 permil.

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