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Determination of water contents of granite melt inclusions by confocal laser Raman microprobe spectroscopy

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ABSTRACT

A new method of determining the water content of melt inclusions using confocal laser Raman microprobe spectroscopy is described. The water content of melt inclusions can be determined in the concentration range of 0 to 20 wt% with a high spatial resolution ($\sim 2 \mu\text{m}$). Because the method works in reflection, minimal sample preparation is necessary. The method is fast, has good accuracy and precision ($\pm 0.25 \text{ wt\%}$), and has the potential to become a useful, high resolution spectroscopic tool for melt inclusion studies.