

LETTER

Elastic geobarometry: How to work with residual inclusion strains and pressures

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ABSTRACT

A continuously increasing number of research groups are adopting elastic geobarometry for retrieving pressures and temperatures of entrapment of inclusions into a host from both natural and experimental samples. However, a few misconceptions of some of the general concepts underlying elastic geobarometry are still widespread. One is the difference between various approaches to retrieve the residual pressures and residual strains from Raman measurements of inclusions. In this paper, the estimation of uncertainties and the validity of some general assumptions behind these methods are discussed in detail, and we provide general guidelines on how to deal with inclusion strain, measurements, inclusion pressure, and their uncertainties.

Keywords: Elastic geobarometry, inclusion strain, residual pressure, Raman spectroscopy, QuiG