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## Raman Spectroscopy as a potential strain gauge

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Raman Spectroscopy is increasingly being used to better understand a range of Earth Science processes. Notable recently is the application of Raman Spectroscopy to carbonaceous material in strained rocks. Here we investigate the changes in Raman Spectral response in strained material relative to an unstrained equivalent, drawing on examples from the published literature and our own work. We consider inconsistencies in the relative changes in Raman Spectral parameters of strained material and their potential causes. In doing so we look at some of the current methods for determining Raman Spectral parameters in rocks and what they might tell us about the strain state of carbon in a single rock sample. Finally, we consider the implications for use of Raman Spectroscopy of carbonaceous material as a geothermometer as well as a future potential strain gauge.