



Calibrating laboratory observations using field data

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It is common to calibrate field observations using the results of carefully-controlled laboratory experiments. In some circumstances however, when for example various laboratories are not in agreement, then field observations may prove useful to discriminate between the disparate competing results.

An example of this is given for laboratory measurements of the effects on electrical conductivity of water in olivine at upper mantle conditions. Three major laboratories are not in agreement. Comparison with a region of carefully-controlled electrical conductivity and known water content at depths of around 100 km beneath the Kaapvaal Craton show that none of the three fit the data.