



Improved combination of superconducting and absolute gravity measurements

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Precise monitoring and a conclusive interpretation of temporal gravity variations at a given station is based upon accurate knowledge about the properties of the used instruments. Only the combination of concurrent sets of superconducting and absolute gravity measurements allow both. Whereas absolute gravimeters provide the scale and reference level, superconducting gravimeters enable to determine gravity variations with high sensitivity and temporal resolution. A method is proposed here to derive the scale function and zero drift of the superconducting gravimeter as well as a reliable survey of the instrumental stability of absolute meters with high precision without the need of gravity reductions. In this way it is possible to separate between geophysical signals and instrumental effects in the time series. Examples from two stations are presented to illustrate the potential of such a combination.