



## **How does Gradiometry help a future low-low SST gravity field mission?**

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GRACE provides one dimensional low-low SST observations while GOCE provides three dimensional direct observations of gravitational gradients. For future gravity satellite missions, a low-low SST link with better accuracy, which can observe time variable gravity signals, is intended. The question arises as to how gradiometry information could help such a mission.

The results of semi-analytical simulations according to comparisons and combinations of these two types of observations will be presented. These simulations are propagations of observation noise to variance-covariance matrices of spherical harmonic coefficients. The goal is the detection of the spectral regions, where a gradiometry component can improve a low-low SST solution. In other words: which gradient component with which accuracy achieves what on board a GRACE-like mission? Therefore the analysis of the spectral error structure for the different observations is very important. The whole error spectrum and the behaviour of the error per degree and on the geoid will be compared. I will concentrate on different power spectral densities of the observation noise and other mission profile components.