

In the short term the primary objective is to ensure continuity or minimize the gap as much as possible. This will require the same performances than Grace with improvements if allowed by the schedule.

In the mid term, more ambitious scientific objectives require to increase the performances in terms of lifetime, spatial resolution, temporal resolution and accuracy.

it is necessary to ensure long lasting mission ,preferably with lives up to 10 years. T

To ensure homogenous quality during this long time it will be advisable to fly at fairly constant altitude. Drag free will also improve the homogeneity of the quality.

The altitude should be in the 300-400 km and the optimal altitude will depend of engineering trade-offs.

To sample in more than one direction is highly desirable. This will provide uniform sampling and homogeneity. Two pairs of satellites at two different inclinations —one polar and one moderate inclination— is clearly an attractive configuration. There are other possibilities like pendulum or cartwheel that deserve analysis.

Separation of sources needs to be solved through a multi-disciplinary approach. The gravity mission help by having long series of homogenous data. Other sciences and the use of data assimilation schemes will also help. Hydrology, atmospheric and ocean circulation models need also to be improved.

This multi-disciplinary approach will add the uniqueness of gravity sensing with the contribution of mission like Sentinel-3 Jason and Jason follow-on as well as necessary terrestrial information as provided by GPS and conventional hydrology.