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**Comparing Different Analysis Approaches for the GRACE Follow-On Mission** PETER L. BENDER, JILA, Univ. of Colorado — The NASA-DLR GRACE Follow-On Mission (GFO) is scheduled for launch in 2017. It will continue the measurements of the GRACE Mission, which has very successfully monitored changes in the Earth's mass distribution since 2002. Some reductions in measurement noise sources are expected, but some empirical parameter correction method will still need to be used to partially correct for satellite acceleration noise. In studies of possible future gravity missions after GFO, quite different assumptions have been made about the length of the data arcs used in the analysis and the nature and numbers of empirical parameters to be estimated. In this talk, the advantages of comparing the different approaches in simulations by analyzing the results along the satellite orbits and at altitude will be discussed. The usual approach is to combine the data arcs over 10 to 30 day periods before solutions for changes in the mass distribution are solved for. But then, the changes in the mass distribution between the times of the different arcs will affect the results. The along track approach is particularly suitable for a suggested analysis method called the ocean calibration approach, where most of the weight in correcting for acceleration noise is given to data collected over the equatorial oceans.

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