

Solid Earth Discuss., author comment AC2
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Reply on RC2

Barend Cornelis Root et al.

Author comment on "Benchmark forward gravity schemes: the gravity field of a realistic lithosphere model WINTERC-G" by Barend Cornelis Root et al., Solid Earth Discuss., <https://doi.org/10.5194/se-2021-145-AC2>, 2022

Likewise, we thank reviewer 2 for the kind words and summary of our work. We appreciate the time you took to review our work and are pleased that you find it worth publishing. Thank you.

The reason for using the geoid for the spherical codes and r-component results for the 4 other methodologies is due to the fact that the internal ASPECT code is not yet able to perform geoid calculations. Thus, we have used two quantities.

Thank you for extra suggestions for the benchmark. We will take this consideration with us for a future publication. In this manuscript, we wanted to show the validity of the gravity signal of WINTERC-grav for different forward modelling methodologies for the global lithospheric (deep Earth) models. Therefore, we also selected to plot the signal at satellite height as WINTERC-grav used the global data from satellite observations. We agree that an even more thorough benchmark is needed to see all differences between the codes. We are considering this for a book chapter publication on further benchmarking the code.