

## ***Interactive comment on “Elevation and elevation change of Greenland and Antarctica derived from CryoSat-2” by V. Helm et al.***

**V. Helm et al.**

veit.helm@awi.de

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R: More detailed description of retracking and SIN processing.

A: We included some more specific description in A1 and A2 explaining the processing.

R: Details to slope correction and convergence of iteration

A: Details to slope correction added in the method section 2.3 A: Figure 3 added to show the convergence

R: Show residuals of DEM – ICESat and include expected error to Figure 6 as a check on its own validity

A: Residual Map was not added. We can provide this but we already have 20 Figures.

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We think the convergence is nicely shown in Fig.

A: Expected error as self validation is now included in Figure 9 as orange line

R: Reference to Khan paper A: Already in the text

R: Mass anomaly section insufficient A: Did the reviewer receive an older version? In the discussion paper we only describe volume changes and no mass changes.

R: DEM uncertainty hard to follow A: Changed and extended explanation in A3

R:  $dh/dt$  error equation wrong and two missing terms A: Equation has been corrected and extended. Du to the change of the  $dh/dt$  processing a second method is introduced in A4.

R: Errors maybe too small since they are likely influenced by significant correlated errors. A: We assume uncorrelated errors. As comparison we introduced a second methodology, which give similar uncertainties.

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Interactive comment on The Cryosphere Discuss., 8, 1673, 2014.

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