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Antarctic ice mass changes observed with GOCE

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The objective of the GOCE mission is to map the Earth's mean gravity field with unprecedented accuracy down to spatial scales of 80 km. We will show that in addition Antarctic ice mass changes can be observed with the GOCE gravity gradient data. In particular the ice mass loss in the West Antartic can be resolved at spatial scales of 100 km or better, with a temporal resolution of approximately 4 months. We address the effect of modelling errors in Glacial Isostatic Adjustment and Dynamic Ocean Topography. Furthermore, we will estimate the mass loss rate and compare the GOCE results with GRACE inferred numbers.