

Geophysical Research Abstracts,  
Vol. 10, EGU2008-A-10835, 2008  
SRef-ID: 1607-7962/gra/EGU2008-A-10835  
EGU General Assembly 2008  
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## **Observations of gravity change and crustal motion in Dronning Maud Land: implications for postglacial rebound and present-day mass balance**

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In 2003 we installed a continuous GPS at the Finnish Antarctic Research Station Aboa (73 deg 03 min S, 13 deg 24 min W) in Dronning Maud Land, Antarctica. At this station we have also performed four absolute gravity measurements (1994, 2000, 2004, 2006). Two absolute gravity measurements (2004, 2006) have been performed at the South African station Sanae IV and at the Russian station Novolazarevskaya. Sanae IV has continuous GPS (the International GNSS Service site VESL), while at Novolazarevskaya only SCAR epoch campaigns are available at present. The purpose of the work is to detect the gravity change and vertical motion caused by past and present changes in the Antarctic ice mass. We discuss the results obtained so far, in the light of regional mass rates from GRACE observations. The fieldwork will be continued in 2008-9. The work is performed under the auspices of the Finnish Antarctic Research Program FINNARP, and it is part of the IPY core activity POLENET.