Geophysical Research Abstracts,
Vol. 10, EGU2008-A-05884, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-05884
EGU General Assembly 2008


# Cross-coupling correction for the LaCoste&Romberg airborne gravimeter

SUN Zhongmiao, XIA Zheren, LI Yingchun
Xi'an Research Institute of Surveying and Mapping, Xi'an, China

The cross-coupling corrections for the LaCoste & Romberg airborne gravimeter are computed as a linear combination of 5 so-called cross-coupling monitors, the weight factors (coefficients) determined from marine gravity data by factory are obviously not optimal for airborne application. In this paper, these coefficients are recalibrated by minimizing the difference between airborne data and upward continued surface data (external calibration) and by minimizing the errors at line crossings (internal calibration) respectively. An integrating method to recalibrate the above-mentioned coefficients and the beam scale factor simultaneously is also presented. Numerical results show that the systemic errors in the airborne gravity anomalies can be greatly reduced by using any of the recalibrated coefficients. For example, the systemic error is reduced from 4.8 mGal to 1.8 mGal in Datong test.