

FIRST RESULTS FROM THE AEROMAGNETIC SURVEY OF THE ARCTIC

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The LOMGRAV09 Danish-Canadian Airborne Gravity of the Arctic Ocean has also been equipped to perform magnetic measurements with the purpose of mapping the magnetic anomalies in the North Pole region within the latitudes 84N and 91N, and longitudes 85W and 40W. The campaign has taken place during the spring in 2009. In order to reduce the magnetic disturbances on the measurement of the magnetic quantities a 4 meter boom was integrated on the DC-3 aircraft. This aircraft allows flying at a low speed of about 300km/hour in order to achieve a reasonable spatial resolution along-track. The resolution cross-track is predetermined to be about 2 km.

In this paper we will present:

- (1) the implemented magnetic instrumental set-up
- (2) the measurement approach
- (3) the processing of the magnetic measurements which include the correction of the aircraft magnetic field, subtraction of the main field as well as the dynamical variation of the magnetic field.

The primary aim is to produce a map of the anomaly magnetic field with an accuracy better than 5 nT and a spatial resolution of 5 km, which in the future can be integrated in the World Digital Magnetic Anomaly Map project.

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