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New aerogeophysical results from the Lomonosov Ridge (Greenland side) and adjoining Amerasia and Eurasia Basins

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Due to extreme ice conditions and remote airbases, little is known about the Lomonosov Ridge (Greenland side) and adjoining Amerasia and Eurasia Basins. Prevailing structural-tectonic models tend to be significantly oversimplified despite the regions complex geological history. In spring 2009, the 55.000 km sq LOMGRAV aerogeophysical survey was acquired over the Lomonosov Ridge (Greenland side) and adjoining Amerasia and Eurasia Basins as part of the Danish and Canadian continental shelf projects. The survey consists of a net of Lomonosov-Ridge-subparallel and 800 km long flight lines spaced 12–15 km apart. We present the results of new aeromagnetic and aerogravity grids compiled from the LOMGRAV and reprocessed NRL-98/-99 data. Evidence is shown of hitherto undetected tectonic features that serve as important constraints on the plate tectonic setting and history.