REVIEW BY THE SUPERVISOR

on the Master's thesis of Elena Popova

"Reconstruction of Late Quaternary paleo-current activity on southern Lomonosov Ridge (Arctic Ocean) and its paleoenvironmental significance"

The reviewed thesis is devoted to the reconstruction of the strength of paleo-currents activity in a channel on the Southern Lomonosov Ridge near Siberian shelf of the Arctic Ocean and connects these data with the paleoenvironmental history. The value of this work is enhanced due to the fact that Elena Popova personally participated in the expedition, took samples and was engaged in their laboratory research and interpretation of the data. Three cores from the southern part of the Lomonosov ridge was studied in details based on sedimentological (X-ray imaging, IRD counting, coarse fraction analysis) and geochemical (organic carbon analysis) data.

The content and form of the reviewed work allowed the author to fully describe the ways to solve the tasks assigned to her.

An important result of the author is the conclusion about periodical fluctuations of the current's strength depending on climate: slightly higher speeds were more typical during interglacials and terminations followed by decreases during cold (glacial) periods. This succession is considered to be related to the Atlantic Water inflows, which in turn depended on the climatic conditions.

The author described in detail the results of her laboratory studies, correctly interpreted them, and made reliable conclusions about the features of sedimentation in a cyclically changing climate.

The research was carried out by Elena Popova at a high scientific level, which made it possible to make valid conclusions about the history of the climate development in the Central Arctic. Such studies are very useful for a better understanding of possible environmental changes in the future.

All tasks were successfully completed in the thesis, and the author deserves an excellent (1.3) mark.

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