



Empirical investigation of the mid-Pleistocene transition

Evgeny Loskutov, Dmitry Mukhin, Andrey Gavrilov, and Alexander Feigin

Institute of Applied Physics of RAS, Nizhny Novgorod, Russian Federation (loskutov@appl.sci-nnov.ru)

In this work we apply a new empirical method for the analysis of complex spatially distributed systems to the analysis of paleoclimatology data. We are focused on the investigation of critical transitions (the abrupt changes in climate dynamics) in process with paleo timescales. Namely we investigated so-called mid-Pleistocene transition which led to change of dominate cycles of glacial variability in Pleistocene.

We demonstrate the first results of applying our empirical methods to analysis of paleoclimate variability. In particular, we discuss the possibility of detecting, identifying and prediction the mid-Pleistocene transition by means of nonlinear empirical modeling using the paleoclimate record time series.

The study is supported by Government of Russian Federation (agreement #14.Z50.31.0033 with the Institute of Applied Physics of RAS).