



On the mechanism of natural variability of Atlantic meridional overturning circulation in climate model INMCM3.0

E. Volodin (1), N. Diansky (1), R. Purini (2), and C. Trasnerici (2)

(1) Institute for Numerical Mathematics, Russian Academy of Science, Moscow, Russian Federation (volodin@inm.ras.ru), (2) Institute of Atmospheric Sciences and Climate of the Italian National Research Council, Rome, Italy (c.trasnerici@isac.cnr.it)

Natural variability of Atlantic meridional overturning circulation (AMOC) in 720-year preindustrial run with climate model INMCM3.0 is analyzed. Variability of AMOC has spectral maxima at 16 and 32 years. On the basis of 5-year running mean AMOC index it is shown that high index of AMOC and decreasing of AMOC corresponds with positive index of NAO and positive anomalies of surface temperature at northern mid and high latitudes. Positive, negative and delayed feedbacks between AMOC and surface heat, fresh water and salinity flux, heat and salinity transport in the ocean are studied.