SPATIAL STRUCTURE OF PERIODICITY OF CONIFER TREE RADIAL GROWTH IN THE KOMI REPUBLIC TERRITORY

O.M. Raspopov¹, E.V. Lopatin², T. Kolström³, V.A. Dergachev⁴, P.B. Dmitriev⁴, H.-P. Kahle⁵, H. Spiecker⁵

 ¹ Pushkov Institute of Terrestrial Magnetism, Ionosphere, and Radiowaves Propagation (Saint-Petersburg Branch), Russian Academy of Sciences, Saint-Petersburg, Russia
² University of Eastern Finland, School of Forest Sciences, Joensuu, Finland
³ Finnish Forest Research Institute (METLA), Vanta, Finland
⁴ Ioffe Physical-Technical Institute, Russian Academy of Sciences, Saint-Petersburg, Russia
⁵ Albert-Ludwigs-Universität Freiburg, Institut für Waldwachstum / Institute for Forest Crowth, Freiburg, Germany

Abstract. Spectral analysis of tree ring data sets of Siberian spruce (*Picea obovata*) and Scots pine (*Pinus sylvestris* L.) was carried out to study the effects of climatic factors on conifer tree radial growth in the Komi Republic territory. Analyses were performed for different natural subzones in the Komi Republic: forest-tundra transition zone, northern, middle and southern taiga. The results show that several groups of periodicities can be found in tree radial growth. One periodicity is related to internal processes in the atmosphere–ocean system, the other one to fluctuations in solar activity.

Keywords: tree rings, dendrochronology, climate change, boreal forest, Komi Republic.