

Moss Survey-2020/2021 in the Regions of Central Russia

Vergel K.^{1,2}, Zinicovscaia I.^{1,4}, Yushin N.¹, Chaligava O.^{1,2}, Cepoi L.^{2,3}

¹*Sector of Neutron Activation Analysis and Applied Research, Division of Nuclear Physics, FLNP, Joint Institute for Nuclear Research, Dubna, Moscow Region, Russian Federation*

²*Doctoral School Biological, Geonomic, Chemical and Technological Science, Moldova State University, Chisinau, Republic of Moldova*

³*Institute of Microbiology and Biotechnology, Technical University of Moldova, Chisinau, Republic of Moldova*

⁴*Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering, 30 Reactorului Str. MG-6, Bucharest - Magurele, Romania*

**e-mail:vergel@jinr.ru*

Results of the study of heavy metals atmospheric deposition in the regions of Central Russia: Moscow, Vladimir, Yaroslavl and Tver regions based on moss analysis are presented. Moss samples were collected during summers in the period 2019-2021 at 425 sample sites evenly distributed over the region in accordance with the guidelines of the UNECE ICP Vegetation. Investigated territory covered an area of 193 000 km². Neutron activation analysis was used for determination of up to 40 elements in samples collected in Moscow, Vladimir and Yaroslavl regions and ICP-OES for detection of 16 elements in Tver region. Multivariate statistical analysis has been applied to reveal possible pollution sources. Using GIS software were created distribution maps. The main air pollution source in all investigated regions is transport, while industrial enterprises contributed to local contamination of the environment.