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**ACTIVITIES OF SCIENTIFIC SCHOOL OF ACADEMICIAN
N.N. BOGOLYUBOV IN THE CONTEXT OF STATISTICAL PHYSICS IN
UKRAINE: TO 70TH ANNIVERSARY OF THE PUBLICATION OF
MONOGRAPH «PROBLEMS OF DYNAMICAL THEORY IN STATISTICAL
PHYSICS»**

Summary

The article analyzes the obtained results and the impact of academician M. Bogolyubov and his scientific school for formation of statistical physics research in Ukraine. The institutional development in specialized centers such as Institute for Mathematics, Bogolyubov Institute for Theoretical Physics, Kyiv University, Kharkiv Institute of Physics and Technology, Institute for Condensed Matter Physics has been shown. M. Bogolyubov scientific biography and his creative portrait formed on the basis of his followers' interview, the activities of M. Bogolyubov's pupils I. Yuhnovsky and S. Peletminsky scientific schools of statistical physics were discussed.

It was established that the development of large-scale researches in statistical physics in Ukraine was stimulated by publication in 1946 of fundamental monograph «Problems of dynamic theory in statistical physics» by M. Bogolyubov. In this book M. Bogolyubov proposed new approaches in statistical physics, the idea about

hierarchy of relaxation times in unbalanced processes, method of building of the kinetic equations on the basis of the mechanics of particles set. He also developed microscopic theories of superfluidity (1947-1948) and superconductivity (1957).

The key results of M.Bogolyubov' followes D.YPetrina, I.Yukhnovsky, S.Peletminsky, E.Petrov, V.Shelest, G.Zinovjev, B.Struminsky, A.Svidzinsky, I.Fisher have been also reflected. The pupil of M.Bogolyubov I.Yuchnovsky has been working in the directions of statistical theory of liquids, solutions of electrolytes and its melting, metals and alloys, disorder systems, quantum liquids, electronic gas in metals, partially exited systems, segnetoelectrics, pellicles and membranes, superfluid liquid and high-temperature plasma. His main results are: the collective variable method in classical and quantum cases, statistical theory of phase transitions of the second sort, microscopic theory of electrolyte solutions.

Numerous scientific results were received by S.Peletminsky in the field of methodology of statistical physics and nonequilibrium processes, for example a transfer of the reduced description idea of microscopic systems on a quantum case, construction of nonequilibrium macro entropy of interaction particles systems, Fermi-liquid approach to superfluid systems, long-wave fluctuations theory, superfluid liquids hydrodynamics.

Keywords: *statistical physics, M. Bogolyubov, hierarchy of relaxation times, Institute for Mathematics, Bogolyubov Institute for Theoretical Physics, Kyiv University, Kharkiv Institute of Physics and Technology, Institute for Condensed Matter Physics.*