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**Vira Babenko\*** ([vira.babenko@drake.edu](mailto:vira.babenko@drake.edu)), Department of Mathematics and Computer Science, Drake University, Des Moines, IA 50311, and **Vladyslav Babenko**, Department of Mathematical Analysis, Oles Honchar Dnipro National University, Dnipro, 49000, Ukraine. *Best Approximation, Optimal Recovery, and Landau Inequalities for Derivatives of Hukuhara-type in function L-spaces.*

In this talk, we consider the problem of approximation of unbounded positively homogeneous operators in L-spaces using Lipschitz operators. We discuss its connection to the problem of computing modulus of continuity of the unbounded operator on the class of elements, as well as, to the problem of optimal recovery of an unbounded operator by a Lipschitz one on the class of elements given with an error. Moreover, in L - spaces and for positively homogeneous operators, the connection of the above-mentioned problems with inequalities of Landau - Kolmogorov type is studied. As applications, we consider the problem of approximation of unbounded operator, that for functions with values in some L-space puts in a correspondence Hukuhara-type derivatives, by Lipschitz operators. In addition, we compute the modulus of continuity of this operator and obtain exact Landau-Kolmogorov type inequalities. Further, we discuss the solution of the problem of the optimal recovery of this operator on the class of functions that have Hukuhara-type derivative with the given majorant of the modulus of continuity (in the case of optimal recovery, elements of this class are given with an error). (Received September 17, 2019)