

Friday, 26 November 2021:

**Dmitry Vladimirovich Ronzhin** (Moscow, Lomonosov Moscow State University)

**«On research of completeness problem in the class of linear automata, functioning over subrings of the rational numbers».**

*Abstract.* Talk will be devoted to the results of the research of the completeness problem under operations of superposition (S) and composition (K), and also A-completeness problem in the class of the automata, functioning over the field of rational numbers and ring of dyadic rationals. For linear automata, functioning over the field of rational numbers it has been shown that there are no finite K-complete systems, and also it has been proven that there are K-complete and S-complete systems of linear automata which are countable infinite. Also it has been shown, that there are K-complete systems, that do not contain basis. For linear automata, functioning over the ring of dyadic rationals the countably infinite set of A-maximal subclasses has been found. In terms of these A-maximum subclasses conditions of A-completeness for systems with additives of specific form has been proved. Questions of algorithmic resolvability for the problem of checking if finite systems of linear automata belongs to any of the found A-maximum subclasses were studied, as well as were researched which of the A-maximum subclasses are finitely generated using A-closure.