▸ ALEXANDER N. GAVRYUSHKIN, *On constructive models of theories with linear Rudin-Keisler ordering.*
Mechanics and Mathematics Department, Novosibirsk State University, Pirogova, 2, Russia.
E-mail: gavryushkin@gmail.com.

Syntactical characterisation of the class of Ehrenfeucht theories was got in [1] by Sudoplatov. It was proved that one can set any Ehrenfeucht theory by a finite pre-ordering (Rudin-Keisler pre-ordering) and a function from this pre-ordering to the set of natural numbers (there are additional inessential restrictions on these pre-ordering and function) as parameters.

Let Rudin-Keisler pre-ordering of an Ehrenfeucht theory T (denoted by $RK(T)$) is a linear ordering. "Which models of T have computable presentations?" — is the main question of the paper.

We say that a model $\mathfrak{M} \models T$ is *quasi-prime* if there is a type p of the theory T and a realisation $\bar{a}$ of p in some model of T such that $\langle \mathfrak{M}, \bar{a} \rangle$ is a prime model.

Let L_n be a linear ordering with $n+1$ elements: $L_n = \{x_0 < x_1 < \ldots < x_n\}$.

One of the main results of the paper is the next one. For all $1 \leqslant n \in \omega$ there exists an Ehrenfeucht theory T_n, $RK(T_n) \cong L_n$, all quasi-prime models of T_n have no computable presentations, there exists computably presentable model of T_n.

As a corollary of this theorem one can construct an Ehrefeucht theory with arbitrary large number of models the only computably presentable model of which is saturated one.

[1] Sudoplatov, S. V., *Complete theories with finitely many countable models*, ***Algebra and Logic***, vol. 43 (2004), no. 1, pp. 62–69.