▸ NATALIA KORNEEVA, *Prefix decidable infinite words for natural subsets of the set of context-free languages.*
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In the talk we consider prefix decidable infinite words over a finite alphabet for some classes of languages.

Let $\mathcal{L}_{\mathcal{CF}}$ be the class of context-free languages, that is, those that are accepted by finite nondeterministic pushdown automata. Let $\mathcal{L}_{AS}$, $\mathcal{L}_{NS}$ be the classes of languages accepted by finite deterministic pushdown automata by final states or empty stack respectively. Let $\mathcal{L}_{\mathcal{R}}$ be the class of regular languages, that is, those that are accepted by finite automata. It is known that $\mathcal{L}_{\mathcal{R}} \subset \mathcal{L}_{AS} \subset \mathcal{L}_{\mathcal{CF}}$ and $\mathcal{L}_{NS} \subset \mathcal{L}_{\mathcal{CF}}$. Let $\mathcal{L}$ be one of these classes. Also let $Pref(x)$ be the set of prefixes of infinite word x.

Definition. An infinite word x over a finite alphabet Σ is called $\mathcal{L}$-prefix decidable if for any language $L \in \mathcal{L}$ over the alphabet Σ the problem $L \cap Pref(x) \neq \emptyset$ is decidable.

The conception of $\mathcal{L}_{\mathcal{R}}$-prefix decidable infinite words was introduced in [1].

The main results of the talk are relations between classes of prefix decidable infinite words for these classes of languages.

Theorem 1. The following conditions for an infinite word x are equivalent:
1) x is $\mathcal{L}_{\mathcal{CF}}$-prefix decidable,
2) x is $\mathcal{L}_{\mathcal{AS}}$-prefix decidable,
3) x is $\mathcal{L}_{\mathcal{NS}}$-prefix decidable.

Theorem 2. There is a $\mathcal{L}_{\mathcal{R}}$-prefix decidable infinite word that is not $\mathcal{L}_{\mathcal{CF}}$-prefix decidable.

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[1] M.N. Vyalyi, A.A. Rubtsov, *Decidability conditions for problems about automata reading infinite words*, ***Diskretnyi Analiz i Issledovanie Operatsii***, vol. 19 (2012), no. 2, pp. 3–18.