▸ FEDOR PAKHOMOV,*Limits of applicability of Gödel's second incompleteness theorem.*
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The celebrated Gödel's second incompleteness theorem is the result that roughly speaking says that no strong enough consistent theory could prove its own consistency. In this talk I will first give an overview of the current state of research on the limits of applicability of the theorem. And second I will present two recent results: first is due to me [1] and the second is due to Albert Visser and me [2]. The first result is an example of a weak natural theory that proves the arithmetization of its own consistency. The second result is a general theorem with the flavor of Second Incompleteness Theorem that is applicable to arbitrary weak first-order theories rather than to extension of some base system. Namely the theorem states that no finitely axiomatizable first-order theory one-dimensionally interprets its own extension by predicative comprehension.

[1] Fedor Pakhomov. A weak set theory that proves its own consistency. *arXiv preprint arXiv:1907.00877*, 2019.

[2] Fedor Pakhomov and Albert Visser. Finitely axiomatized theories lack self-comprehension. *arXiv preprint arXiv:2109.02548*, 2021.