▸ TOSHIYASU ARAI, *Proof theory of stable ordinals.*
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An ordinal $\mathbb{S}$ is said to be *stable* (in a universe L) iff $L_{\mathbb{S}} \prec_{\Sigma_1} L$. An existence of stable ordinals is closely related to Σ^1_2-Comprehension Axiom in second order arithmetic in one side, and Σ_1-Separation axiom in set theory on the other.

In this talk let us report proof theory (ordinal analysis) of set theories for stable ordinals. Stable ordinals are eliminated from derivations of Σ-sentences on ω_1^{CK} to obtain an upper bound of the proof-theoretic ordinal of the theory. Derivations are controlled by operators as in [3, 5]. A computable notation system of ordinals is extracted from the elimination procedure. ψ-functions in [2] and Mostowski collapsing functions on ordinals are main constructors in the system. Well-foundedness of the system is proved through maximal distinguished classes in [1, 4], which are Σ^1_2-definable.

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