The stability of forcing companion for center of Jonsson set's fragment

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Abstract: Let T is Jonsson theory [1] complete for the existential sentences in the language L and C is its semantic model. Let X is Jonsson subset [2] of C and M is existentially closed submodel of semantic model C of considered Jonsson theory T, where $dcl(X) = M$. $Th_{\forall\exists}(M) = T_M$, where T_M is the Jonsson fragment of Jonsson set X.

Let $A \subseteq C$, $\sigma_\Gamma(A) = \sigma \cup \{c_a | a \in A\} \cup \Gamma$, where $\Gamma = \{P\} \cup \{c\}$. Consider the following theory $T_\Gamma(A) = Th_{\forall\exists}(C, a)_{a\in A} \cup \{P(c)\} \cup \{"P \subseteq"\}$, where $\{"P \subseteq"\}$ is an infinite set of sentences, which says that a interpretation of symbol P is positively existentially closed submodel in the signature σ. This theory is not necessarily complete. Through S_Γ denoted the set of all Σ-completions of theory $T_\Gamma(A)$. Theory T is said to be $P - \lambda$-stable, if $|S_\Gamma| \leq \lambda$ for any A, such that $|A| \leq \lambda$.

Consider all completions of the center T^* of the theory T in a new signature σ_Γ, where $\Gamma = \{c\}$. By virtue that T^* is Jonsson theory, there exist its center and we denote it so T^C. If restrictions T^C to the signature σ, that the theory T^C becomes a complete type. This type we call a central type of theory T.

Theorem 1. *Let λ be an arbitrary infinite cardinal, T_M is perfect Jonsson theory, complete for positive existential sentences. Then the following conditions are equivalent:*

(1) *T^*_M is $P - \lambda$-stable;*
(2) *$(T^*_M)^F$ is λ-stable in the classical sense, where $(T^*_M)^F$ is forcing companion of theory T^*_M in enriched signature;*
(3) *T^C_M is λ-stable in the classical sense.*

Keywords: Jonsson theory, Jonsson set, forcing companion, stable theory

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