► CYRUS F NOURANI, PATRIK EKLUND, *Ultrafilters on n-types categories and the V Universe.*
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Let us start with n-types and positive local realizability (Keiser 1971, Nourani 2003): Given a theory T and a nonnegative integer n, let n(T) be the set of all signature $(\phi) \subseteq signature(T)$.

Let us consider (a) An ordinary category on T-Sigma trees for a signature Sigma and Sigma homomorphisms. (b) Category of direct product models realizing an n-Type: e.g. Horn filters (Nourani 2007). c. Term functors direct "product algebra" category. Objects are term functors and morphims are natural trasnformations on representation preschievs (Nourani 2006). Call these nD-type embedding categories, or F-Type categories. Theorem 1 There is a generic functor on the category the omitting n-types realizing a direct product model (Nourani 2016). From Nourani 2015 volume: algebraic set theory: \\V onto the Boolean models, \\VB, e.g. Scott models for classes of Boolean algebras can be reduced to only the Boolean algebras over $\{0, 1\}$. Proposition (Nurani 2005) stipulations on \\V and be carried on \\VB applying generic definable diagrams on set models, e.g. Gödel operations definable. From Kiesler 70's: Theorem 2 Let T be a countable theory. For each $i \in \omega$, let pi be an essentially nonprincipal n-ype over T. Then T has a model which omits pi for each $i \in \omega$. Let P(T Sig) be a functor category defined on the free signature trees with the power set on T Sig, this can be a monoidal category. The adjunction functors being the functor F, forgetful to the product signature n-type category with G the embedding functor from the n-type category on the product pair signature to a powerset category. Lemma F.G is a Monad on pair product signature n-type. Theorem 3 There are embedding functors from F-Type to the direct product category realizing a filter for the product algebra trees on nD-types. (Nourani-Eklund 2016 MAA and,AAA Vienna2018)

[1] Nourani-Eklund 2017: Term Functors, Ultrafilter Categorial Computing, and Monads Cyrus F Nourani and Patrik Eklund: Coauthors. LAMBERT Academic Publishing Bahnhofstraße 28, D-66111 Saarbrücken, Germany).