Functorial Models, Horn Products, and Positive Omitting Types Realizability

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Infinitary positive language categories are defined and infintary complements to Robinson consistency from the author's preceding papers are further developed to present new positive omitting types techniques. The author (1994) defined a preorder small-complete category on the Kiesler fragments. Based on the infinitiary counterpart
Robinson's consistency functorial Fragment Limit Chain models, were defined (1996).. • •

Definition 1 Let Σ (x1…xn) be a set of formulas of L. A positive theory T in L is said to positively locally realize Σ
iff there is a formula ϕ (x1…xn) in L s.t.
(ii) for all σ in Σ, T ⊢ ϕ or T U σ is not consistent. • •

Positive local realizability allows us to present new omitting type theorems, positive morphic extensions, product Horn models and new consistency techniques, positive categories and Horn categories that are are new fragment categories (Nourani 2005).

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