Logic with the quantifier "there exist uncountably many"

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Abstract

This paper concerns the language $L(Q)$. We shall develop the formal structure of the language $L(Q)$, including the definitions of a formula, axiom, and rule of inference. Author use two interpretations od $L(Q)$, the standard models and the weak models. The standard models are intended interpretations, where (QX) means "there are uncountably many".

We obtain completeness theorems for the languages formed by adding the quantifier (Qx) to $L(Q)$, to ω-logic and to the infinitary logic $L_{\omega_1,\omega}$. We give some applications which concern different interpretations of quantifier (Qx).

Sadržaj