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Solvability of logical equations in the modal system Grz and in intuitionistic logic. (Russian)

Zbl 0729.03014

Sib. Mat. Zh. 32, No. 2(186), 140-153 (1991).

By a logical equation we understand an expression of the form $A(x_i, p_j) \equiv_{\lambda} B(x_i, p_j)$, where A, B are formulas, x_i are variables, p_j are metavariables (or parameters), λ is some logic. A tuple ψ_i is called a solution of this equation in the logic λ iff $A(\psi_i, p_j)$ is equivalent to $B(\psi_i, p_j)$ in the logic λ . A particular case of logical equations is the so-called substitution problem: to recognize for any formula $A(x_i, p_j)$ whether there is a tuple ψ_i of formulas such that $A(\psi_i, p_j) \in \lambda$. In this paper, an algorithm is found, which recognizes solvability of logical equations in the modal system Grz and in Int, and constructs some solution for solvable equations. This solves the substitution problem for Grz and Int.

Reviewer: [V.V.Rybakov](#)

MSC:

[03B45](#) Modal logic (including the logic of norms)

[03B20](#) Subsystems of classical logic (including intuitionistic logic)

Cited in **1** Review
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Keywords:

intuitionistic logic; modal logic; admissible rule; substitution problem; algorithm; solvability of logical equations; Grz

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