

BULLETIN

OF

SYMBOLIC LOGIC

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VOLUME 6 · NUMBER 1 · MARCH 2000
ISSN 1079-8986

PUBLISHED QUARTERLY BY THE ASSOCIATION FOR SYMBOLIC LOGIC, INC.
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THE BULLETIN OF SYMBOLIC LOGIC (ISSN 1079-8986) is published quarterly, in the months of March, June, September, and December, by the Association for Symbolic Logic, Inc. at 1325 South Oak Street, Champaign, IL 61820-6903, USA. Second class postage is paid at Champaign, IL and additional offices. The BULLETIN is distributed with THE JOURNAL OF SYMBOLIC LOGIC; the 2000 annual subscription price for the two journals is \$365. Postmaster: Send address changes to *The Bulletin of Symbolic Logic, Journals Division UIP, 1325 South Oak Street, Champaign, IL 61820-6903, USA*. Business correspondence should be sent to the Secretary-Treasurer of the Association, C. Ward Henson (address on inside back cover).

The BULLETIN and the JOURNAL are the official organs of the Association for Symbolic Logic, an international organization for furthering research in symbolic logic and the exchange of ideas among mathematicians, philosophers, computer scientists, linguists, and others interested in this field.

The BULLETIN invites submission of *Articles* and *Communications* and publishes reviews of publications in logic.

Continued on inside back cover

chains.

- (ii) *Superintuitionistic logic IPC, KC are Kripke complete by admissibility with respect to certain classes of rooted countable posets without infinite ascending chains.*

THEOREM 3.

- (i) *Any modal logic above K4 of finite depth and of width at least 3 is Kripke incomplete by admissibility with respect to any class of rooted frames.*
 (ii) *Any superintuitionistic logic with finite depth with width at least e is Kripke incomplete by admissibility with respect to any class of rooted posets.*

[1] V. V. RYBAKOV, V. R. KIYATKIN, and T. ONER, *On finite model property for admissible rules*, to appear in *Mathematical Logic Quarterly* in 1999.

[2] V. V. RYBAKOV, *Admissibility of logical inference rules*, Studies in Logic and Foundations of Mathematics, no. 136, North-Holland, Elsevier, 1997, 617 pp.

- SAEED P. SALEHI, *Intuitionistic axiomatization of the end-extension Kripke models*.
 Department of Mathematics, Sharif University of Technology, P.O. Box 11365-9415, Tehran, Iran.
 Institute for Studies in Theoretical Physics and Mathematics, P.O. Box 19395-5746, Tehran, Iran.
E-mail: salehi@karun.ipm.ac.ir.

This is joint work with Mohammad Ardeshir and Wim Ruitenburg.

We axiomatize two important intermediate logics, classifying end-extension Kripke models and cofinal-extension Kripke models. As applications, we show that Heyting Arithmetic, HA, is complete with respect to the class of its end-extension Kripke models and every cofinal-extension Kripke model of HA is PA-normal.

This work is partially supported by the Institute for studies in Theoretical Physics and Mathematics (IPM), Iran.

[1] S. BUSS, *Intuitionistic validity in T-normal Kripke structures*, *Annals of Pure and Applied Logic*, vol. 59 (1993), pp. 159–173.

[2] H. ONO, *Model extension theorem and Craig's interpolation theorem for predicate logic*, *Reports on Mathematical Logic*, vol. 15 (1983), pp. 41–58.

[3] K. F. WEHMEIER, *Classical and intuitionistic models of arithmetic*, *Notre Dame Journal of Formal Logic*, vol. 37 (1996), no. 3, pp. 452–461.

- KATSUMI SASAKI, *Disjunction free formulas in an intuitionistic modal logic*.
 Department of Information Systems and Quantitative Sciences, Nanzan University, 18 Yamazato-Cho Showa-Ku, Nagoya 466-8673, Japan.
E-mail: sasaki@iq.nanzan-u.ac.jp.

The logic treated here is the intuitionistic modal logic obtained from the smallest intuitionistic modal logic **IntK** by adding the axioms $T_c: a \supset \Box a$ and $4_c: \Box \Box a \supset \Box a$. This logic was considered in Benton, Bierman and de Paiva [1], Fairtlough and Mendler [3] and Goldblatt [4]. [1] described that the logic corresponds to the computational typed lambda calculus introduced in Moggi [6] by the Curry-Howard isomorphism. They gave a natural deduction system for the logic and proved the strong normalization theorem. [3] treated it as the logic with applications to the formal verification of hardware. In [4], the logic was introduced as the logic having the interpretation “locality”.

Here we discuss the set of formulas constructed from the propositional variables p_1, \dots, p_n and the constant \perp using \supset, \wedge and \Box in the intuitionistic modal logic. The set of these non-modal formulas was already considered in Diego [2]. He showed that the set of such non-modal formulas contains only finitely many pairwise non-equivalent in intuitionistic propositional logic. Urquhart [7] and Hendriks [5] gave more precise descriptions about

Articles should be expository or survey papers of broad interest that are accessible to a wide audience of logicians. They may deal with any areas of logic including mathematical or philosophical logic, logic in computer science or linguistics, the history or philosophy of logic, and applications of logic to other fields.

Communications should be announcements of important new results and ideas in any aspect of logic; they may be short papers in their final form or preliminary announcements (extended abstracts, position papers) of longer, full papers that will be published elsewhere. In any case, they should include, in addition to a description of the new results or ideas, enough history, background, and explanation to make the significance of the work apparent to a wide audience. *Communications* will be quickly refereed and published within six months of the submission of final versions.

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