

Compatible Operations in Heyting algebras

Rodolfo Ertola and Hernán San Martín

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Abstract

We study some compatible operations that may be defined using the minimum operator in the context of a Heyting algebra and that turn out to be inter-definable with already known operations, to wit, the minimum dense (see [4]), the successor operation of Kuznetsov (see [3]) and the G operation of Gabbay (see [2]). We consider algebraic aspects such as polynomiality and affine completeness, and logical aspects such as axiomatizability with *Modus Ponens* as only rule and conservativeness. This study may be seen as a continuation of [1].

References

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- [3] Kuznetsov, A. On the Propositional Calculus of Intuitionistic Provability, *Soviet Math. Dokl.* vol. 32 (1985). pp. 18-21.
- [4] Smetanich, Y. On the Completeness of a Propositional Calculus with a Supplementary Operation in one Variable. *Tr. Mosk. Mat. Obsch.* vol. 9 (1960). pp. 357-371.

SECTION: Logic

SPEAKER: Rodolfo Ertola