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RELATION BETWEEN *BE*-ALGEBRAS AND *g*-HILBERT ALGEBRAS

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Abstract

Hilbert algebras are important tools for certain investigations in algebraic logic since they can be considered as fragments of any propositional logic containing a logical connective implication and the constant 1 which is considered as the logical value "true" and as a generalization of this was defined the notion of g-Hilbert algebra. In this paper, we investigate the relationship between g-Hilbert algebras, gi-algebras, implication gruopoid and BE-algebras. In fact, we show that every g-Hilbert algebra is a self distributive BE-algebras and conversely. We show cannot remove the condition self distributivity. Therefore we show that any self distributive commutative BE-algebras is a gi-algebra and any gi-algebra is strong and transitive if and only if it is a commutative BE-algebra. We prove that the MV-algebra is equivalent to the bounded commutative BE-algebra.

Keywords: (Heyting, implication, (g-)Hilbert) algebra, BE/CI-algebra, dual $(S/Q/BCK)$-algebra, gi-algebra, implication groupoid, pre-logic, MV-algebra.

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