Cantor-Bernstein theorem for pseudo BCK-algebras

Jan Kühr

Department of Algebra and Geometry,
Faculty of Science, Palacký University,
Olomouc, Czech Republic,
e-mail: `kuhr@inf.upol.cz`

For any σ-complete Boolean algebras A and B, if A is isomorphic to $[0, b] \subseteq B$ and B is isomorphic to $[0, a] \subseteq A$, then $A \cong B$. Recently, several generalizations of this known Cantor-Bernstein type theorem for MV-algebras, (pseudo) effect algebras and ℓ-groups have appeared in [1], [2], [4] and [5]. We prove an analogous result for certain *pseudo BCK-algebras*—a non-commutative extension of BCK-algebras introduced in [3]. Namely, we show that if A and B are two pseudo BCK-algebras (with the stipulated properties) such that A is isomorphic to a deductive system in B which has a complement in the lattice of all deductive systems, and vice versa, then A and B are isomorphic.

References

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