

عنوان مقاله:

States on implication basic algebras

محل انتشار:

مجله سیستم های فازی، دوره 17، شماره 6 (سال: 1399)

تعداد صفحات اصل مقاله: 18

نویسندگان:

S. M. Ghasemi Nejad - *Department of Mathematics, Faculty of Shariaty, Tehran Branch, Technical and Vocational University (TVU), Tehran, Iran*

R. A. Borzooei - *Department of Mathematics, Shahid Beheshti University, Tehran, Iran*

M. Bakhshi - *Department of Mathematics, University of Bojnord, Bojnord, Iran*

خلاصه مقاله:

In this paper, the notions of Bosbach states and state-morphisms on implication basic algebra are introduced, along with their properties and related results. It is proved that Bosbach states coincide with Riecan states on bounded implication basic algebras. Accordingly, the relations between Bosbach states and state-morphisms are discussed. It is proved that sm is a state-morphism on IB if and only if sm is a Bosbach state and $sm(x \vee y) = sm(x) \vee sm(y)$. In addition, the concept of internal states on implication basic algebras is defined, and accordingly, the notions of IS-prefilters, IS-filters, and IS-congruence relations on implication basic algebras are introduced. Then, it is proved that one-to-one correspondence is available between the set of all IS-filters and IS-congruence relations on implication basic algebras. Finally, the new notion of generalized state maps from an implication basic algebra IB_1 to an arbitrary implication basic algebra IB_2 is defined and generalized state-morphisms and generalized internal states as two types of individual generalized state maps are introduced. This confirmed that the generalized internal states are a generalization of internal states, and the generalized state-morphisms are a generalization of state-morphisms on implication basic algebras. Finally, it is shown that a generalized internal state gs is an internal state on implication basic algebra IB if $gs^2 = g$.

کلمات کلیدی:

Basic algebra, implication basic algebra, Bosbach state, Rievcian state, state-morphism, internal state, generalized state

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