On the product of some algebraic structures

Beloslav Riečan

Faculty of Natural Sciences
Matej Bel University
Tajovského 40
SK-974 01 Banská Bystrica, Slovakia
and
Mathematical Institute of Slovak Academy of Sciences
Štefánikova 49
SK–81473 Bratislava
riecan@fpv.umb.sk

The basic structure studied in the contribution is an MV algebra $(M, 0, 1, \oplus, \odot)$. The probability theory on MV-algebras has been built in [10] and developed in further papers. One of the important tools in the theory is the notion of the product MV-algebra. The notion has been introduced independently in [7] and [6] and it was improved in [2].

Recently a similar method has been used in D-posets. The product on D-posets has been introduced in [3] and [4] and some possibilities on such structure has appeared in [9].

Another theory concerning the area is the probability theory on IF sets introduced in [1]. A review of probability results on the family $\mathcal{F}$ of IF sets can be found in [11]. It is interesting that the IF set structure can be imbedded in an MV-algebra $\mathcal{M}$ ([8], for a similar result in a dual structure $\mathcal{V}$ see [5]).

The aim of the contribution is a construction of a product in $\mathcal{F}$ or $\mathcal{V}$ resp. such that the corresponding MV-algebra $\mathcal{M}$ becomes a product MV-algebra. It gives some possibilities for probability results in $\mathcal{F}$ and $\mathcal{V}$.

Acknowledgment
This work was supported by Grant VEGA 1/0621/11.

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