



## Direct product of doubt intuitionistic fuzzy H-ideals in BCK/BCI-algebras

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### Abstract

*In this paper, we have enhanced the notion of the direct product of two intuitionistic fuzzy sets to the notion of the generalised direct product of two doubt intuitionistic fuzzy subalgebras and two doubt intuitionistic fuzzy H-ideals of two BCK/BCI-algebras using max-min operations. And we study some interesting properties of such direct product of doubt intuitionistic fuzzy H-ideals of BCK/BCI-algebras. Using level subsets of BCK/BCI-algebras, some characterization theorems are also given.*

**Keywords:** BCK / BCI-algebra, Direct product, Doubt intuitionistic fuzzy subalgebra, Doubt intuitionistic fuzzy H-ideal.

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