

O-UNION AND O-DECOMPOSITION ON HYPER K-ALGEBRAS

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ABSTRACT. In this paper, we define a O-union of two hyper K-algebras and O-decomposition of a hyper K-algebra. In general, the O-union of two hyper K-algebra is not a hyper K-algebra. But, if a hyper K-algebra $(H, \circ, 0)$, be the O-union of two hyper K-algebras $(H, \circ_1, 0)$ and $(H, \circ_2, 0)$, we investigate which properties of $(H, \circ_1, 0)$ and $(H, \circ_2, 0)$ is transferred to $(H, \circ, 0)$ and conversely. Also we show that a hyper K-algebra $(H, \circ, 0)$ where $x \in x \circ y$ can be decomposed into a positive implicative hyper BCK-algebra and a hyper K-algebra.

Key words and phrases. O-union, Hyper K-algebra, Hyper K-ideal, Positive implicative hyper K-ideal, Implicative hyper K-ideal.