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A New Aspect to Octonions

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Abstract

In this study, we will examine octonions as a new number system from a different perspective. By changing the roles of the units of real octonions $e_0, e_1, e_2, e_3, ..., e_7$ we will give the octonions constructed in a new form and their basic properties. Moreover, the basic algebraic properties, addition and multiplication operations and their differences from other octonion structures will be examined and their geometric properties will be given. In addition, it will be discussed what further studies can be built and worked on this new number system and from which directions it can be approached.

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