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REGULAR VECTOR SPACES AND THEIR GENERALIZATION

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Abstract

In this paper, we have been established left (right) regular vector space over a division regular ring and we have obtained some equivalent statement theorems. Further, if U and V are left regular vector spaces over a division regular ring Δ , We have shown that $Hom_{\Delta}(V, U)$ is also a regular ring. Also we proved that if V and U are of finite dimensions n and m respectively over a division regular ring Δ , then, there is a one to one correspondence between the set $Hom_{\Delta}(V, U)$ and the set of all $n \times m$ matrices in $\Delta_{n,m}$.

Key Words : *Division regular ring, Homomorphism, Maximal set, Ring, Regular ring, Vector space.*

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