

1086-16-339

Feroz Siddique* (fsiddiq2@slu.edu), Department of Mathematics and Computer Sc., 220 N. Grand Blvd, Saint Louis, MO 63103, and **Ashish K Srivastava** (asrivas3@slu.edu), Department of Mathematics and Computer Sc., 220 N. Grand Blvd, Saint Louis, MO 63103.
Decomposing Elements of a Right Self Injective Ring.

It was proved independently by both Wolfson [An ideal theoretic characterization of the ring of all linear transformations, Amer. J. Math. 75 (1953), 358-386] and Zelinsky [Every Linear Transformation is Sum of Nonsingular Ones, Proc. Amer. Math. Soc. 5 (1954), 627-630] that every linear transformation of a vector space V over a division ring D is the sum of two invertible linear transformations except when V is one-dimensional over \mathbb{Z}_2 . This was extended by Khurana and Srivastava [Right self-injective rings in which each element is sum of two units, J. Algebra and its Appl., Vol. 6, No. 2 (2007), 281-286] who proved that every element of a right self-injective ring R is the sum of two units if and only if R has no factor ring isomorphic to \mathbb{Z}_2 . In this paper we prove that if R is a right self-injective ring, then for each element $a \in R$ there exists a unit $u \in R$ such that both $a + u$ and $a - u$ are units if and only if R has no factor ring isomorphic to \mathbb{Z}_2 or \mathbb{Z}_3 . (Received September 25, 2012)