

1043-17-41

Andrew Wells*, Department of Mathematics, 396 Carver Hall, Ames, IA 50011. *The structure of Moufang loops arising from zorn vector matrix algebras.*

We consider the Zorn vector matrix algebra construction used by Paige to obtain simple, non-associative, Moufang loops. We use this same construction, but over commutative rings with identity instead of fields, and obtain (not necessarily simple) Moufang loops. Then we describe such loops in terms of a loop extension over an abelian group. Such a description gives us insight into the loop's subloop structure. Particular attention is paid to the example created from the commutative ring $\mathbb{Z}/p^2\mathbb{Z}$. (Received August 03, 2008)