SMARANDACHE GROUPOID RINGS AND ITS PROPERTIES

W.B.Vasantha Kandasamy and Moon Kumar Chetry

The study of non-associative rings is very meagre. When we say we do not include Lie rings or Jordan rings. By a non-associative ring we mean an associative ring in which the multiplicative operation in the ring is non-associative. The well-known and well-researched non-associative rings are loop-rings i.e. loops over rings.

In this paper we introduce yet another new class of non-associative ring known as groupoid rings. In this paper we use only groupoids built using the set of modulo integers Z_n. Such new classes of groupoids z_n^*, z_n^{**} are dealt elaborately in the book on groupoids and Smarandache groupoids. As usual rings R are chosen to be commutative rings with 1. We study when these groupoid rings $R z_n^*$ ($R z_n^{**}$ and so on) are Smarandache groupoid rings. Even if $R z_n^*$ happens to be a Smarandache ring we do no claim $R z_n^*$ to be a Smarandache groupoid ring.

Our main study is to find the classes of Smarandache groupoid rings which are Moufang, Alternative, Bol, or P-rings.

e-mail: vasantha@iitm.ac.in
web: http://mat.iitm.ac.in/~wbv