LOOP SEMIRING WHERE SEMIRINGS ARE LATTICE

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In this paper we introduce the new notion called loops over semirings where semirings are distributive finite lattices. These new structures are non-associative and they form a semiring. The main results proved in the paper are

If $L$ is any loop having an element of finite order and $S$ a distributive lattice then $SL$, the loop semiring has non-trivial idempotents and zero divisors. If $S$ is a chain lattice and $L$ any loop, $SL$ the loop semiring has no zero divisors but has non-trivial idempotents this is a distinctly unique property enjoyed by loop semiring. Another result of interest and fascination is that in loop semiring $SL$, if $\alpha \beta \in SL \setminus L$ then we can prove $\alpha \circ \beta \in L$, this is not true in any other structures. The only conditions for $S$ is that $S$ is a distributive lattice which is not a chain lattice. Thus these new structure provide us many important properties.