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USING NON ASSOCIATIVE FINITE PSEUDO FIELDS

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In this paper we construct a new algebraic structure called pseudo fields of order n^2, $n > 3$ and n an odd integer and prove for every such integer n there exists one and only one pseudo field. We then generalize the concept of pseudo fields to pseudo rings. in fact we prove for a given odd integer n, $n > 3$ there are several pseudo division rings. We define a pseudo field P as a set closed with respect to two binary operations "+" and "." such that (P, +) is an additive abelian group. (P, .) is a commutative loop under ".". In general $a.(b + c)$ is $\neq a.b + a.c$ for all a, b, c in P. "." is not in general associative. We prove if the order of P is prime then P has no proper subset which is a pseudo field.

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