

Hugo Luiz Mariano

Universidade de São Paulo, Brasil
hugomar@ime.usp.br

The concept of hyperrings was introduced by Marc Krasner in 1957, as an expansion of the concept of ring where the sum is multivalued. The concept of polynomials (and its roots) over hyper compositional structures that generalizes commutative rings are considered in [5], [1], [2], [6].

The goal of the present work is twofold:

- (i) To expand the basic theory of algebraic extensions to the realm of superfields –a field with multivalued operations of sum and product–, showing that every superfield has a (unique up to isomorphism) full algebraic extension to a superfield that is algebraically closed.
- (ii) To show that every infinite algebraically closed superfield admits a quantifier elimination procedure that, in some sense corresponds to a model-theoretic statement which cannot be the traditional quantifier elimination, as established in [4].

Trabajo en conjunto con Kaique Matias de Andrade Roberto (Unicamp, Brasil).

Referencias

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