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Geometric hypergroups. (English) Zbl 07490808
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Summary: The aim of this paper is to extend the notion of geometric groups to geometric hypergroups and to investigate the interaction between algebraic and geometric properties of hypergroups. In this regard, we first define a metric structure on hypergroups via word metric and present some examples on it by using generalized Cayley graphs over hypergroups. Then we study a large scale of geometry with respect to the structure of hypergroups and we prove that metric spaces of finitely generated hypergroups coming from different generating sets are quasi-isometric.

MSC:
20N20 Hypergroups
05C25 Graphs and abstract algebra (groups, rings, fields, etc.)

Keywords:
Cayley graph; hypergroup; geometric hypergroup

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References:
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