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Towards a geometric theory for left loops

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Abstract: In [Mwambene E., *Multiples of left loops and vertex-transitive graphs*, Cent. Eur. J. Math. **3** (2005), no. 2, 254–250] it was proved that every vertex-transitive graph is the Cayley graph of a left loop with respect to a quasi-associative Cayley set. We use this result to show that Cayley graphs of left loops with respect to such sets have some properties in common with Cayley graphs of groups which can be used to study a geometric theory for left loops in analogy to that for groups.

Keywords: left loops; Cayley graphs; rate of growth; hyperbolicity
AMS Subject Classification: 20N05, 05C25

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