

Year: 2009

Vol.: 75

Fasc.: 3-4

**Title:** Jordan loop rings

**Author(s):** Bradley C. Dart and Edgar G. Goodaire

A commutative loop or ring is said to be Jordan if it satisfies the identity  $(x^2y)x = x^2(yx)$ . We show that the loop ring of a Jordan loop  $L$  is Jordan and not associative only if the characteristic of the coefficient ring is even and call such a loop *ring Jordan* (RJ, for short). While Jordan loops are in general not power associative, RJ loops are. We give various constructions of finite RJ loops and conjecture that these exist only when they have order divisible by four. We also conjecture that RJ loops are precisely those commutative loops in which squares are in the left nucleus.

**Address:**

Bradley C. Dart  
Memorial University of Newfoundland  
St. John's, Newfoundland  
Canada A1C 5S7

**Address:**

Edgar G. Goodaire  
Memorial University of Newfoundland  
St. John's, Newfoundland  
Canada A1C 5S7