
Commutator theory for loops I

David Stanovský and Petr Vojtěchovský*

Charles University in Prague, Czech Republic

Using the Freese-McKenzie commutator theory for congruence modular varieties, we develop commutator theory for the variety of loops. The main result is a relation between generators of the commutator of two normal subloops, and generators of the total inner mapping group of a loop.

We argue that some standard definitions of loop theory, drawn upon direct analogy to group theory, should be revised. In particular, we show that Bruck's notion of solvability is strictly weaker than solvability in the sense of commutator theory, and question certain results, such as Glaubermann's extension of the Feit-Thompson odd order theorem to Moufang loops.