

Goodaire, Edgar G.; Robinson, D. A.

Semi-direct products and Bol loop. (English) Zbl 0831.20095

Demonstr. Math. 27, No. 3-4, 573-588 (1994).

The authors first discuss under what circumstances semi-direct products of loops can be formed and then show exactly when a loop is a semi-direct product of a pair of subloops. It turns out that some ad hoc constructions in the literature are in reality semi-direct products. After this general study, the authors deal with loops satisfying the (right) Bol identity $(xy \cdot z)y = x(yz \cdot y)$, which are well known to include Bruck loops, Moufang loops, extra loops, and groups. They study the problem how to use semi-direct products of Bol loops to produce new Bol loops. Necessary and sufficient conditions are presented for a semi-direct product of loops to be a Bol loop.

Reviewer: [R.Artzy \(Haifa\)](#)

MSC:

[20N05](#) Loops, quasigroups

Cited in 4 Documents

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[right Bol identity](#); [semi-direct products of loops](#); [Bruck loops](#); [Moufang loops](#); [extra loops](#); [Bol loops](#)

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