

# On the theory of smooth $M$ -loops

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The smooth  $CC$ -loops are considered in the context of the theory of smooth  $M$ -loops. We would like to discuss some properties of these loops.

A loop  $\langle Q, \cdot, \backslash, /, e \rangle$  with the identity

$$x \cdot (y \cdot z) = (x \cdot (y \cdot \phi(x)))(J\phi(x) \cdot z)$$

where  $\phi(x) : Q \rightarrow Q$ ,  $J : Q \rightarrow Q$  are maps, and  $x \cdot Jx = e$ , is called an  $M$ -loop.