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On the Schur Multiplier of n-Lie Algebras

We give the structure of all covers of n-Lie algebras with finite dimensional Schur multipliers, which generalizes an earlier work of Salemkar et al. Also, for an n-Lie algebra A of dimension d, we find the upper bound $\dim \mathcal{M}(A) \leq \binom{d}{n}$, where $\mathcal{M}(A)$ denotes the Schur multiplier of A and that the equality holds if and only if A is abelian. Finally, we give a formula for the dimension of the Schur multiplier of the direct sum of two n-Lie algebras.

Keywords: n-Lie algebra, covering n-Lie algebra, isoclinism, Schur multiplier.

MSC: 17B05; 17B30