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Title: Classification of Frobenius Lie algebras of dimension ≤ 6

Author(s): Balázs Csikós and László Verhóczki

A Lie algebra $\mathfrak{g}$ over an arbitrary field is a Frobenius Lie algebra if there is a linear form $l \in \mathfrak{g}^*$ whose stabilizer with respect to the coadjoint representation of $\mathfrak{g}$, i.e. $\mathfrak{g}(l) = \{X \in \mathfrak{g} \mid l([X, Y]) = 0 \text{ for all } Y \in \mathfrak{g}\}$ is trivial. In the present paper we classify Frobenius Lie algebras of dimension 4 over arbitrary fields of characteristic $\neq 2$ and 6-dimensional Frobenius Lie algebras over algebraically closed fields of characteristic 0.

Address:
Balázs Csikós
Department of Geometry
Institute of Mathematics
Eötvös University
Pázmány Péter sétány 1/C
H-1117 Budapest
Hungary
E-mail: csikos@cs.elte.hu

Address:
László Verhóczki
Department of Geometry
Institute of Mathematics
Eötvös University
Pázmány Péter sétány 1/C
H-1117 Budapest
Hungary
E-mail: verhol@cs.elte.hu