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Adjoint symmetries of second-order differential equations and generalizations. (English)

[Zbl 0787.58018](#)

Janyška, Josef (ed.) et al., Differential geometry and its applications. International conference, Brno, Czechoslovakia, 27 Aug. - 2 Sept. 1989. Singapore: World Scientific. 412-421 (1990).

Summary: We briefly recall the concept of adjoint symmetries of a second-order equation field Γ on TM : adjoint symmetries are 1-forms which in a sense are the dual objects of the symmetry vector fields of Γ . A first generalization is about time-dependent systems, where we show that all results of the autonomous case remain valid. We next discuss the generalization to higher-order differential equations. Here, the situation is in some respects substantially different, but it appears that the main features of the theory survive the complications.

For the entire collection see [\[Zbl 0777.00040\]](#).

MSC:

- [37J99](#) Dynamical aspects of finite-dimensional Hamiltonian and Lagrangian systems Cited in **2** Documents
- [37C80](#) Symmetries, equivariant dynamical systems (MSC2010)
- [70H03](#) Lagrange's equations

Keywords:

[ordinary differential equations](#); [higher-order tangent bundles](#); [Lagrangian systems](#); [adjoint symmetries](#)