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Local convexity for second order differential equations on a Lie algebroid. (English)

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Summary: A theory of local convexity for a second order differential equation (SODE) on a Lie algebroid is developed. The particular case when the (SODE) is homogeneous quadratic is extensively discussed.

MSC:

34A26 Geometric methods in ordinary differential equations

34B15 Nonlinear boundary value problems for ordinary differential equations

17B66 Lie algebras of vector fields and related (super) algebras

22A22 Topological groupoids (including differentiable and Lie groupoids)

Keywords:

convexity theory; second order differential equation; Lie algebroid; Lie groupoid; exponential map; homogeneous quadratic function

Full Text: [DOI](#) [arXiv](#)

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