

MR1109955 (92b:58009) [58A15](#) [58E30](#) [58F05](#) [70G99](#)

Matsyuk, R. Ya. (2-AOSUK-A2)

Exterior differential equations in generalized mechanics and symmetry properties. (Russian)

Methods for studying differential and integral operators (Russian), 153–160, 217, “*Naukova Dumka*”, Kiev, 1989.

Summary (translated from the Russian): “We formulate the geometric theory of Euler-Lagrange-Poisson equations with higher derivatives in generalized mechanics and classical field theory in the language of exterior differential forms with values in a vector bundle. We study problems of invariance with respect to infinitesimal groups of transformations, and the inverse problem of the calculus of variations. We consider examples of invariant third-order equations of motion in the special theory of relativity.”

{For the entire collection see [MR1109927 \(92a:00034\)](#)}

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