

Lie algebra classification, conservation laws and invariant solutions for modification of the generalization of the Emden–Fowler equation.

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April 7, 2021

Abstract

We obtain the optimal system's generating operators associated to a modification of the generalization of the Emden–Fowler Equation. equation. Using those operators we characterize all invariant solutions associated to a generalized. Moreover, we present the variational symmetries and the corresponding conservation laws, using Noether's theorem and Ibragimov's method. Finally, we classify the Lie algebra associated to the given equation.

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