عنوان مقاله:

Ki Lie Symmetry Method for Solutions of Differential Equations with Applications in Physics

محل انتشار:

دومین همایش ملی پژوهش های کاربردی در ریاضی و فیزیک (سال: 1393)

تعداد صفحات اصل مقاله: 13

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خلاصه مقاله:

A mathematical method in pure mathematics (differential geometry) for finding solutions of differential equations is considered. The method is based on constructing a Lie algebra associated to a given system of differential equation, called Lie algebra of the symmetries of the given system. This Lie algebra is a vector space which maps a given solution, such as a constant solution, to another solution, it is a significant tool for finding new solution for system of differential equation specially partial differential equations. Then we will apply it to some differential equations in fluid mechanics and physics

کلمات کلیدی:

Differential equations, Fluid Mechanics, boundary layers, Newtonian fluid, Flows of vector fields, heat transfer equation