

Symmetry operators for dynamical systems by high order ODEs

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ABSTRACT

The paper presents the special features of the Newton representation which is an important tool for studying high order ordinary differential equations (ODEs). For a dynamical system with p -degrees of freedom the form of the symmetry operator and its extensions are pointed out. This approach is applied to the fourth order ODE associated to one of the integrable cases in the bi-dimensional Hénon-Heiles system.