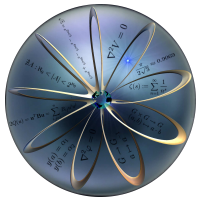

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symmetry of an ordinary differential equation

Canonical name	SymmetryOfAnOrdinaryDifferentialEquation
Date of creation	2013-03-22 13:42:24
Last modified on	2013-03-22 13:42:24
Owner	Daume (40)
Last modified by	Daume (40)
Numerical id	10
Author	Daume (40)
Entry type	Definition
Classification	msc 34-00
Synonym	symmetry of an differential equation

Let $f : \mathbb{R}^n \to \mathbb{R}^n$ be a smooth function and let

$$\dot{x} = f(x)$$

be a system of ordinary differential equations, in addition let γ be an invertible matrix. Then γ is a *of the ordinary differential equation* if

$$f(\gamma x) = \gamma f(x).$$

Example:

- Natural symmetry of the Lorenz equation is a example of a symmetry of a differential equation.

References

[GSS] Golubitsky, Martin. Stewart, Ian. Schaeffer, G. David: Singularities and Groups in Bifurcation Theory *(Volume II)*. Springer-Verlag, New York, 1988.