

Solvable systems of nonlinear ODEs

Francesco Calogero

Physics Department, University of Rome "La Sapienza", Rome, Italy
Istituto Nazionale di Fisica Nucleare, Sezione di Roma 1

Abstract

After a terse discussion of the various possible significances of the term “*solvable*”, I will review a few recent results concerning systems of nonlinear Ordinary Differential Equations, such as special cases of the prototypical system

$$\dot{x}_n(t) = c_{n1}[x_1(t)]^2 + c_{n2}x_1(t)x_2(t) + c_{n3}[x_2(t)]^2, \quad n = 1, 2,$$

and of analogous systems mainly featuring polynomial right-hand sides and few dependent variables.